

The Oldest Bee Journal in the English Language

The American Bee Journal

ESTABLISHED BY SAMUEL WAGNER IN 1861

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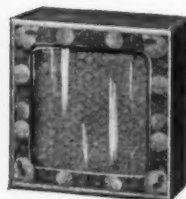
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10 lb. pails, 50 in ctn., wt. 45 lbs. -----	5.10	5.10	5.00	5.15	5.15
5 gal. cans, 1 in ctn., wt. 6 lbs. -----	.45	.45	.44	.45	.46
5 gal. cans, 50 in crate, wt. 175 lbs.* -----	16.00	16.00	16.00	16.00	16.00
½ lb. jars, 24 in ctn., wt. 12 lbs. -----	.67	.67	.63	.69	.69
1 lb. jars, 24 in ctn., wt. 21 lbs. -----	.88	.88	.85	.90	.90
2 lb. jars, 12 in ctn., wt. 17 lbs. -----	.60	.60	.60	.65	.65
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AMERICAN BEE JOURNAL



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Here Comes the New Bee

By J. A. Schlotthauer,
California.

THAT the time is ripe for concerted effort to develop the New Bee is self evident. The demand for the New Bee is so universal that wherever beekeeping is practiced in the whole wide world, an outstanding rebuke is felt because the bee, in its progress of development, has not kept up with the improvements gained in the breeding of poultry and domestic animals. The urgency for such need is evidenced by the tentative materials appearing in our bee journals, both from the beekeeping laity as well as the professional scientist.

Dr. L. R. Watson's articles in this journal, beginning on page 64 of the current volume, describe most explicitly the need for the New Bee. He contrasts the success achieved in the development, to a high state of perfection, in poultry and farm animals, also points out the need of co-operation between the beekeeper and the scientist in the development of the New Bee. He admits the seriousness of the situation when he says: "It may fairly be said, and it must be said, that the utmost has been made of the bees, such as we have, but the genetical potentialities of *Apis mellifica* now after 3,000 years of continuous history are as a closed book."

Dr. Raymond Pearl, admits the same truth when he says: "Genes are almost incredibly stable and resistant to alteration in the natural and unusual circumstances of life. For something over 15 years there has been going on in my laboratory a continuous experiment designed to test this point in a simple direct way. This experiment has now included over 300 successive generations—perhaps the longest bit of controlled breeding ever carried out, with the results in each successive generation carefully observed and precisely recorded. Allowing 30 years as a round figure for the average duration of a human generation, the time equivalent in human reproduction would be 9,000 years—considerably

longer than the total span of man's even dimly recorded history." In spite of such forbidding facts, is Dr. Watson hopeful to achieve by "grading up" a perfect Bee. However, it must be admitted that he fails to point out any direct or specific course of procedure for either the lay beekeeper or the scientist to follow in the development of the New Bee. The very nature of the bee in her habit of propagation and method of food gathering as well as her inferiority in value and size as compared to poultry and animals, is assigned as the cause for the inability to speedily improve her race. No rapid improvement in poultry and domestic animals was obtained until mechanical devices were developed, such as the score card, Babcock tester, cream separator, scales, etc. In like manner must a means be found whereby the New Bee may be developed. Because of the miniature size of the bee with its intricate organs, obviously necessitates the use of the microscope together with other laboratory paraphernalia in its study and dissection. The patience of the pioneers, who could sit all day and observe the workings of the bees, does not fit in with our present day beekeeping system. As much as we appreciate the volume of knowledge passed down to us by these mighty men, nevertheless the truth remains as Dr. Watson says: "Its development is only just beginning—just beginning—and depends upon the initiative of men of vision." Nearly every one of the 800,000 beekeepers in the United States together with those in other countries, have at some time in their work among their bees had occasion to remark something about that, "best colony of mine." The truth of this is depicted in every photograph of an apiary one sees. In every picture the sad truth is revealed that such a large proportion of the apiary is not up to that best colony. When the real reason for that best colony being

better than the others in the same location and working under the same conditions is positively determined, then are we on our way to start "grading up." In a recent letter from a leading geneticist, he says: "I have been attempting for the past two or three years to find some measure for judging the potential value of a queen." Then recites his various endeavors and further says: "However, I have about reached the conclusion that the best way to judge a queen is to study her characteristics and the behavior of her colony during the entire season and to make a comparison with the production and characteristics of colonies headed by her daughters." Such a course of procedure is very good but falls short of a definite method of comparison. It is well known that seasons constantly differ, insect enemies of floral plants increasing and bee diseases more virulent. If a succession of seasons were the same in rainfall, wind velocity, temperature, and such other factors which influence plant growth, nectar flow and flying conditions, a reasonably accurate comparative record could be ascertained. But just imagine what a failure it would turn out to be if your neighbor decided to dust or to spray his orchard or field crops with poisonous insecticides, and seasonal conditions were otherwise unfavorable. Dr. Watson makes a true confession when he says: "Our mastery over the performance of the bees has so far extended almost entirely to the factors of environment with only slight and uncertain control of their heredity." The sad part of such procedure by our queen breeders is vividly evidenced in the purchase of purely mated or breeder queens. Each individual breeder has his own standard of judging the degree of perfection in queens. The fact that poultry, the smallest of our farm population, have been developed to so near a state of

(Please turn to page 488)

Honey Processing for Small Containers

By C. H. Gilbert,
Wyoming.

MARKETING honey locally presents many problems and perhaps the most important is processing and packing honey in small containers. Many beekeepers are selling honey in local markets and a large percentage of them are not equipped to process it properly. Much of the honey packed, though of fine body, flavor and color, is not well filtered and must be sold at a low price. In

processing honey for small containers, special equipment is necessary which will eliminate the danger of overheating, liquefy the honey as quickly as possible and insure perfect filtration. The small producer cannot afford elaborate equipment and must have an inexpensive, practical outfit.

We have attempted to solve this phase of our marketing problem by constructing special tanks for liquefy-

ing, heating and filtering honey. The outfit is economical, compact and very efficient. Honey can be packed in small containers in the average honey house at small cost, when these tanks are used.

The big problem in processing honey is to prevent overheating, although this danger is not as great as it seems. Heat properly applied will not damage honey and it is impossible to liquefy and filter honey without it. When heating honey, a thermometer should always be used and the honey should be stirred occasionally. When the correct temperature is reached, the heat should be turned off immediately. The method of processing which we are about to describe depends entirely upon steam heat for its success. The honey is first liquefied and then heated to retard granulation before being filtered.

The process begins with solid, granulated honey in sixty pound cans. In order to prevent overheating during the process of liquefaction, the tank shown in Figure 1 was constructed. The cans are placed in the tank with the openings in the lower corner, thus permitting the honey to run out as rapidly as it becomes liquid. The tank is made to hold four sixty pound cans, which are held in place by angle irons. The tank is covered by a lid in which four holes have been made to fit snugly over the openings in the cans. The steam and the water is carried away through a half-inch drain pipe. A close fitting cover with flange on the bottom prevents water from getting into the honey. The liquid honey flows from the sixty pound can into a trough and from there to the heating tanks shown in Figure 2.

The trough is tapered and is supported by V shaped, strap iron braces which fit into slots on the bottom of the tank. These supports are not attached to the trough and by changing them and reversing the trough, the flow of honey can be changed from right to left. The angle iron support should be inclined toward the back or bottom of the cans. Then as the cake of granulated honey becomes smaller, it will slide towards the bottom of the can and leave the opening free. After the steam has been on for about five to ten minutes, the cake of granulated honey can be pushed away from the opening and the liquid honey will run out. If this is not done, the chunk of granulated honey will block the opening. Some liquid honey will be retained in each can and they

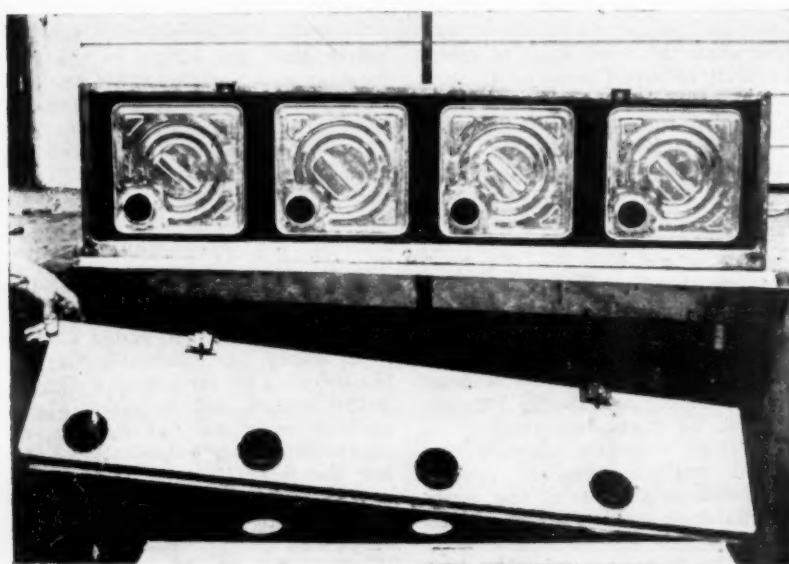


Fig. 1—The liquefying tank. Description in article.

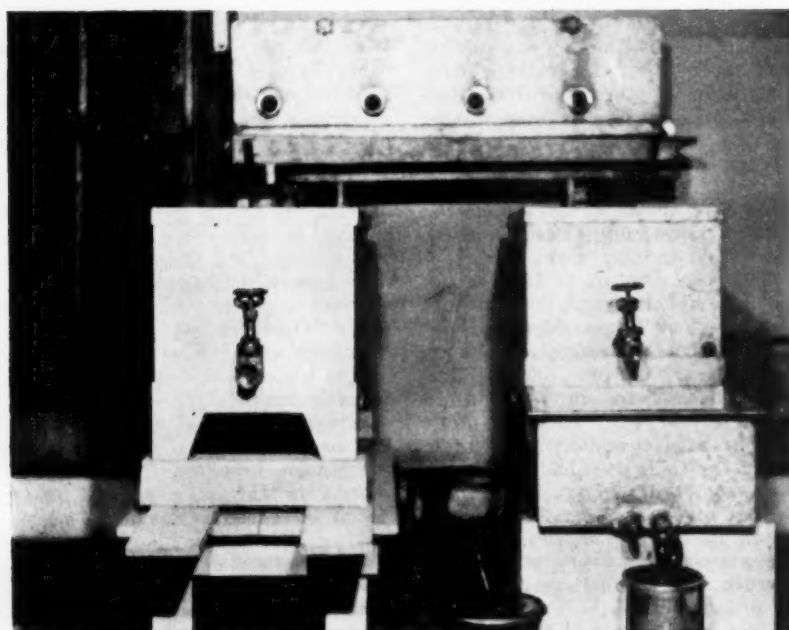


Fig. 2—The complete set-up.

should be removed from the tank and emptied just as soon as the granulation has disappeared.

The liquefying tank cannot be used when the honey is in a liquid, or semi-liquid state. The honey spills from the tank into an open trough and, if it is not liquid and warm, the trough will not handle it. If the honey in the sixty pound cans is liquid enough to run, it should be poured directly into the heating tanks.

Steam-Jacket Heating Tank

The honey from the liquefying tank flows directly to the steam-jacket heating tank, Figure 2, where it is surrounded by a two inch jacket of steam. The honey is heated to the correct temperature, which is retained as long as desired. The bottom of the heating tank slopes toward the gate opening so that all the honey can be drawn without tilting the tank. The bottom of the steam jacket is also sloped to permit drainage of water.

Filtering Tank

The honey, after it is heated, passes through the valve into the filtering tank shown in Figures 2 and 3. This is a very important step in the process and the filtering tank must be properly constructed to avoid retarding the flow of honey. The tank is constructed to provide ample room above and below the filter cloth. The capacity of the tank is approximately thirty-five pounds above and below the cloth, or a total of seventy-five pounds. A removable center partition of one-half inch mesh sand screen supports the filter cloth. When pouring honey in glass jars, air bubbles will be avoided if about fifteen to thirty pounds of honey is held constantly below the filter cloth. A removable filter cloth holder (Figure 3) permits easy access to the cloth so that it can be washed frequently. If a small mesh filter cloth is used and the containers are clean, a beautiful, clear pack should be produced. Figure 4 shows a display of honey which was processed in this manner.

If a small processing outfit is desired, one heating tank is sufficient. Honey at a temperature of around seventy degrees Fahrenheit, permits the processing of over one thousand pounds a day with one heating tank. The capacity of the outfit may be doubled by using two heating tanks as shown in Figure 2. If two heating tanks are used, the liquefier is operated constantly. The trough is reversed and the honey runs into one tank while the other one is being heated and drawn into containers. If the honey is liquid, the process is speeded up considerably because the liquefier need not be used.

The measurements of the three units are as follows:



Fig. 3—Showing the details of the filtering tank.



Fig. 4—A display of honey that has been processed in the outfit shown in Figs. 1-2-3.

Liquefying Tank (Figure 1)
Left to Right 48 in.
Front to Rear 16 in.
Top to Bottom 13 in.

Heating Tank (Figure 2)
Length 32 in.
Depth Taper 14 to 13 in.
Width 13 in.

Strainer (Figure 3)
Length 18 1/2 in.
Depth 10 in.
Width 14 in.

The above measurements can be varied to fit the space and material available. The heating tanks should be made to hold 240 pounds of honey with ample room for stirring. The gate end of the heating tank need not be steam jacketed, thus avoiding some difficulty in attaching the honey

gate. Heavy twenty-four gauge galvanized iron should be used throughout.

Cost of Equipment

Four-can liquefier	\$17.20
Steam-jacket heating tank	17.80
Strainer tank	11.60

These prices include covers for all tanks, but does not include valves and honey gates, or fittings for valves and pipes.

The tanks were made by a local tinner and can be made in any well equipped tin shop.

If any producer is unable to have satisfactory tanks made locally, I shall be very glad to secure prices f.o.b. Laramie and have them made here according to our specifications.

Here Comes the New Bee

(Continued from page 485)

perfection, as "an egg a day" would indicate that the lack in determining a system whereby the prepotent powers of queens and drones may be established, rested at the door of our scientific research departments.

With all the drawbacks and handicaps of the bees as compared to poultry and domestic animals, the day has arrived when a system must be evolved whereby the potential value as well as the prepotent power of a queen and drone can be set out in figures. A score card system applied to apiculture holds a practical solution to determine the WHY of "that best colony of mine." When a positive reason can be assigned for the better producer then only can "grading up" begin. The physical structure of either man or beast enters largely into his adaptability to perform or execute a given task. By selection, feeding, and controlled breeding, on the basis of points as defined in an adopted score system, have the various organs and physical structure in poultry and domestic animals been developed with the result of more and larger eggs, more milk and butterfat, also increased development of those parts of the physical structure which are the more desirable cuts in meats.

The seriousness of the situation warrants consideration to the application of known methods in animal husbandry to apiculture, for the purpose of establishing those characteristics which excel in efficiency in the bees. It is a well known fact that the physical structure of the bees enters largely in their efficiency of storing surplus honey, so then why not start in by rating the organs employed in their task, measured and scored by an adopted rule for comparative purposes. If a set rule were adopted, on the basis of present day records for the queen, her drones, virgins, and bees and a score of 100 allowed as a basis of perfection, if the performance over a given period were recorded and graded by an adopted scale, if the weather conditions and nectar flow were also scaled on a percentage basis, a measurable score would be established and each succeeding generation, similarly scored, would form a basis of computing progress or decline. Likewise could the degree of prepotent power in breeders be determined. On the same basis can a system be evolved whereby the ravages and losses of bee disease can be abated and the long sought for "resistant bee" be developed.

The enormous task of bringing about the evolution of the New Bee will require the wholehearted co-

operation of beedom the world over and especially from those who have daily contact with the life and workings of the bees. It is hardly to be expected that the group of laboratory experts will develop that deep-seated love for the bees which is so much in evidence by the practical beekeeper. Therefore, it is up to the laity in beedom to create a popular demand in the direction of a New Bee. It will require a large force of specialists to carry on the work incumbent upon the undertaking as well as large appropriations, and our legislatures cannot be expected to realize the need of pushing such a project unless they are informed of their part in so worthy an undertaking. For the purpose of favorable action by the authorities, more extensive organization among beekeepers becomes imperative. Like a tree with its trunk, branches, and twigs, so has the

ground work been laid in our beekeeping organizations. We have many local clubs, we have state association, also our national association. Like the sleeping giant, when once he is awakened, what a power for good can be set in motion. The importance of the industry and the host of people engaged in it should make it possible to obtain such aid from the government as will be asked.

By the interchange of findings with other countries interested in the work of developing the New Bee, any feature now existent in any strain of bees in any part of the world can be incorporated.

When one ponders the possibilities of such concerted action in the light of modern inventions and the knowledge of genetical proclivities, the graduated **score card** is the key to unlock the door for the New Bee to enter.

—ABJ—

News from Oklahoma

By Clarence J. Tontz.



Snow on the Mountain.

Due to the extreme drought this past season this state has produced very little surplus honey. Although some colonies produced a super of surplus honey most of them only produced enough to see them through a mild winter.

Included in the work program of the WPA was the planting of clover to areas of thin and rocky soil. Yellow sweet clover appears to be a very promising honey source. It blossoms out in the spring, usually around May 1st, when there is plenty of moisture and the weather mild. Many colonies located in areas of yellow sweet clover stored up their winter supply in only a few weeks' flow. White clover, coming later in the summer, was a failure.

Sumac, that source of such delicious honey, appears to be on the decline. Fewer and fewer patches are seen along the roads and at out-of-the-way places. It is thought that it is being killed out by a small parasitic insect with its egg-laying activities during the blossoming period, hindering reproduction of the plant.

To add unfortunate things American foulbrood was in greater evidence this past season than we have ever seen it before. The extensive spread of American foulbrood, I be-

lieve, can be attributed in part to the drought. Many of the weaker colonies that just barely pulled through last winter were no doubt robbed out by stronger colonies when the honeyflow was cut short by the drought after the yellow clover had finished blossoming. Some of these weak colonies having American foulbrood ruined whole apiaries of strong healthy colonies.

So severe was the drought that it is doubtful if the smart-weed, that reliable old honey plant even in periods of dry weather, will amount to much this fall even though the drought is broken soon by a heavy rainfall. In most apiaries where feeding is not done the size of next year's honey crop is greatly influenced by the fall flow of smartweed.

A honey plant akin to the smart-weed or heartsease in that it survives dry weather to a marked degree is the snow-on-the-mountain (*Euphorbia marginata*). Although not important here as a honey plant because it is not widespread, it aids bees that have access to it. The picture shown herewith was taken in September '35 in Cimmaron Valley, where much of it grows, after a heavy rainfall had broken the long dry spell.

GUEST EDITORIAL

*In the Interest of . . .
American Honey Institute*

Why Not Use More Honey Personally, Thereby Encouraging Others to Go and Do Likewise?

By J. M. Robinson,
Head, Department of Zoology-Entomology,
Alabama Polytechnic Institute,
Auburn, Alabama.



Where Do the Package Bee and Queen Shippers Stand?

THE package bee and queen shippers of the United States should be particularly interested in the fine work already accomplished by the American Honey Institute in its long time program of increasing the consumption of honey in the United States. As the consumption of honey increases naturally the demand for package bees and queens grows larger. Many of the package bee and queen shippers realize the importance and value of the work of the American Honey Institute and contribute liberally to its upkeep and continuation. In Alabama the package bee and queen shippers back the Institute one hundred per cent in that all the shippers make some sort of contribution annually. At a recent visit to Louisiana attending the Louisiana Beekeepers' fine meeting on August 15 it was apparent that the package bee and queen shippers of that state are realizing the importance and value of the work carried on by the Institute.

Using Honey

Do you use the honey spray on your cereal each morning? And what about a spray of honey on the crisp toast? To me it is a very fine combination since I still have a sweet tooth. Are you still using plain white bread or do you ask for Honey Krust Bread when you order? Just a week ago I found Honey Krust Bread with a wrapper and all in a very small town store in southern Ohio. If more beekeepers would ask for Honey Krust Bread it would certainly help honey consumption. It should not be forgotten that Honey Krust Bread in one year consumed six million pounds of honey. Why not encourage the consumption of Honey Krust Bread, thereby doubling the consumption of honey? Try eating some honey in your regular diet and tell your neighbors how good it is.

The Institute Helps All of Us

The work of American Honey Institute has not only brought beekeeping leaders together but has brought public recognition to our positions. It has been a stimulating force to all types of beekeeping activity. Likewise it has introduced beekeeping leaders to food leaders with the result that increasing amounts of honey are being used commercially. All types of industrial and educational groups are contacted for just ONE purpose; that purpose is to **increase** the consumption of the nectar of flowers preserved by the bees. And since all phases of the beekeeping industry are enlarged or decreased according to the demands made by the consuming public, we **SHOULD** recognize the importance of the Institute to our industry.

The Institute Staff

The things one believes personally and expresses to the

public often bring them into a larger service to humanity. About fourteen years ago Miss Malitta Fischer, now Mrs. Jensen, started a Honey Tea Room and through the tea room kitchen developed delicious dishes using honey. The goodness of these food combinations spread far beyond the limits of the university town where students, professors, and townspeople, as well, were served. Mrs. Jensen made no mistake when she staked her personal business on the belief that the public would like honey. Today with the help of Miss Mercedes Cranston, Miss Willah Goodman, Miss Geneva Wolf (all staff members), and thousands of enthusiastic HONEY COOKS, she is serving the entire beekeeping industry.

We have too, those men who serve on the Institute Board of Directors and Committees. Everyone of them is outstanding in his own field whether commercial or institutional. It has been a REAL problem to keep the Institute's work continuous and I wonder if we do not forget many times how hard these men have worked to keep this organization alive. Knowing that they serve without pay, we must appreciate that the only reason these men continue to give their time, strength and money for the benefit of all of us engaged in beekeeping is because of their BELIEF in the value of the Institute and their loyalty to the industry.

Cookery Contest

What have you done to encourage your neighbors to participate in the honey cookery contest at the San Antonio meeting? Why not get someone to send in some kind of cooked food in which honey has been used?

If you can interest any of your friends in entering the third annual cookery contest you should have them write the American Honey Institute at Madison for blanks. The entry should be sent to the American Honey Institute, Crockett Hotel, San Antonio, Texas, and should be there by November 20, 1936.

Harvest Festival

Each beekeeper could help a lot in encouraging people to use more honey by interesting the local home economic teachers in the schools to enter into the spirit of the Honey Harvest Festival, October 25-31. Another very helpful movement would be to interest the teachers in having the children include honeybees and honey in making posters in their art work at that time. It is often possible to interest the business men in sharing space in their windows for such posters. Often grocerymen and druggists use the posters along with samples of honey in such displays.

San Antonio Meeting, November 23-25

I hope I may see you there.

EDITORIAL

Temperature and Honeyflow

It is to be hoped that a sufficient number of records have been kept during the past season of exceedingly high temperatures to enable one to determine the effect on honeyflow. In 1926 M. D. Farrar made some observations at the South Dakota College of Agriculture which indicated that high yields are seldom secured at extremely high temperatures. In his paper published in the report of the Iowa state apiarist for that year, he stated: "On only two days did high yields occur at maximum temperatures greater than 90 degrees." He also stated that precipitation influenced the honeyflow to a greater extent than did the temperature.

Over much of the mid-west this season, temperatures were much higher than usual with far less rainfall than normal. Yet in many cases the bees gathered a fair harvest. As far as this writer's observation went, the flow was slow and steady and there were but few days when the hive gained more than two or three pounds.

H. B. Parks, of the Texas Experiment Station, in a paper in the Iowa Apiarist's Report for 1928, stated that honeybees will not work in the field in that region when the temperature is above 94 degrees and the relative humidity is below fifty. Few of the records available concerning storing activities include the humidity. It is quite possible that humidity may be a very important factor in this as it appears to be in wintering.

Parks calls attention to the fact that at times of great heat the bees store large quantities of water in an effort to equalize conditions within the hive. He has noted that two or three hours ahead of dust storms or hot winds the bees increase their activity and store an ample water supply.

—ABJ—

New Plans for Disease Study

Our readers will be interested in Mr. Hambleton's announcement of his plans for investigation of the subject of disease resistance in honeybees. In an editorial in this magazine in August, 1934, entitled "The Disease Menace" it was suggested that beekeeping interests unite in an effort to secure funds for the bee culture office in Washington to undertake a serious study of the problem. The suggestion met with general approval and although two years have since passed, much has been done in the meantime.

The Iowa Agricultural Experiment Station and the Extension Service of Iowa State College of Agriculture set up a cooperative experiment to be supported jointly by the American Bee Journal at Pellett Gardens, Atlantic, Iowa, for investigation of this problem. Our readers are familiar with the results of the first year's work as told by Dr. O. W. Park in the January issue of this magazine.

Mr. Hambleton explains in his announcement the plans for continuing the investigation with each of several experiment stations working on some special phase of the problem. For the present Iowa's work will be carried on at the same place and with the same men, with the American Bee Journal cooperating as before.

This problem is so complex and offers so many opportunities for investigation that there is ample room for all who are in position to assist in its solution. When the disease is finally conquered it is probable that so many will have contributed that no one individual can claim a very large portion of the credit. Already many different persons have done something to help along and generous support has been received from beekeepers in widely separated localities.

Get Ready for Winter Now

The disastrous losses of last winter remind us that it is time for the beekeeper to prepare for another winter which is just ahead. Perhaps this may be a mild one but it is never safe to count on mild winters. There is a chance that it may be another severe example of long continued cold. Many beekeepers lost a large part of their bees last winter and have found it hard to replace them since.

There are few localities in the northern states where the honeyflow is not now over. The sooner winter preparations are made after the close of the flow the better both for the bees and the beekeeper. It is much easier to give proper attention to details before the weather gets cold, and the bees need several weeks' time to adjust their housekeeping before cold weather comes.

All old and failing queens should be replaced with young ones and ample stores should be provided to carry the bees through until warm weather next spring. Combs of sealed honey are the best food for the bees since they also contain reserves of pollen which will be needed for next spring's brood rearing. Lacking that, the next best food supply is sugar syrup given as thick as it can be handled readily. Two parts granulated sugar to one part by measure of water makes a thick syrup which the bees can store with little effort. Be sure that there are plenty of stores available. Not only should the supply be ample for the winter months but it is much safer to provide now for next spring's needs. Fifty pounds of sealed honey or syrup is about right although the bees will often go through safely on a smaller amount. If any is left over it will not be wasted but will take the place of an equal amount of new honey coming in next spring.

Winter protection should not be overlooked and packing should be done as early as conditions permit so that the bees may remain undisturbed after the winter cluster is formed.

—ABJ—

The Spread of Disease

The publication of the results of the study of disease germs in honey by Dr. A. P. Sturtevant makes available some very important information regarding the spread of American foulbrood. So much agitation has been going on regarding the certification of honey that these results should be studied very carefully by every one who wishes to be fully informed.

In the light of Sturtevant's findings we will have to revise our textbooks and will also have to look closer home for the culprit who is responsible for our troubles. Instead of blaming the commercial honey for the spread of disease we will have to be more careful of our methods of manipulation and avoid careless interchanging of equipment.

It is encouraging to learn that there is very little danger of the spread of disease by commercial honey in the usual channels of trade. In view of the results shown it is probable that most inspectors will relax somewhat in dealing with sealed honey in supers which is ready for market. In fact it is doubtful whether the courts would sustain an order to destroy supers of honey along with diseased colonies if the defense relied upon the facts as shown in the new publication.

The question arises as to how disease is spread in many cases of mysterious appearance. It is probable that it is borne by some, as yet, unsuspected agency. Since many other diseases have been found to have more than one host, is it not possible that the same is true of the brood diseases of bees? We have assumed without wait-

ing for scientific proof that a drop of honey from a diseased colony was sufficient to give disease to a healthy colony. We have thought that a discarded honey pail might be the source of all our trouble. Sturtevant has proved that there is very little danger in containers which have held commercial honey and that in most cases a large quantity of honey must be taken by the bees to serve as a carrier for the contagion. It now remains to find just where the responsibility lies.

—ABJ—

Controlled Mating

The August issue of *Bees and Honey* contains an account of the experiments of Charles F. Kinzie, of Arlington, California, in securing controlled matings of queen bees. Mr. Kinzie has constructed a screened cage 25 feet long by 19 feet wide and 24 feet high. He claims to have secured from 63% to 83% of matings when queens were permitted to fly in this enclosure. The cage is boarded on all sides to a height of ten feet which encourages the bees to fly into the upper portion.

It is interesting to note in this connection that J. S. Davitte, of Georgia, reported a similar experiment in 1901. Davitte built a tent of mosquito netting which was 30 feet in diameter and 30 feet high. He claimed to have reared about a hundred queens which were successfully mated in this enclosure.

Later R. F. Holtermann, of Canada, a well known bee-man of that period reported failure of a similar attempt.

For more than a century beemen have sought a means to control the mating of their queens. The many expedients which have been tried make an interesting chapter of beekeeping history. While partial success has been reported on numerous occasions, no completely practical plan has as yet been perfected. What is needed is something which can be used by every queen breeder, which will insure a high percentage of success and which does not involve excessive cost.

Mr. Kinzie's efforts will be watched with interest, although it would seem that the cost of construction of such a cage as he uses would make it impractical for most beemen.

—ABJ—

Save the Wax

In many small apiaries there is evident a marked indifference to the saving of beeswax. Because the amount is small is no reason for waste. In a large outfit the wax becomes an item of substantial value and is usually cared for.

In the production of extracted honey the beekeeper usually secures about a pound of beeswax for each seventy-five pounds of honey. In addition there is a considerable accumulation in the course of the season from broken combs, scrapings from burr combs, etc.

If one figures the price per pound of beeswax and the percentage which its value represents in his output he will see at once that it is an item worthy of attention whether the outfit be large or small.

—ABJ—

Colonies or Packages for Orchard Use

The demand for bees for use in pollination of orchards has opened an important market for the live bee shipper. There is a great variation in results reported from the use of package bees and further work needs to be done to ascertain just what is needed to meet the needs of the fruit grower.

Investigation by C. L. Farrar at Massachusetts Agricultural College favored the full colony rather than the package. We quote Farrar as follows: "During 1929 under normal seasonal conditions, strong overwintered colonies furnished approximately eight to twenty times as many field bees per minute as did either the three-pound package or three-frame nuclei when the bees were allowed to fly from their shipping packages."

On the other hand similar studies by F. B. Paddock in Iowa made a better showing for the package. In a detailed account of the work which appeared in the report of Iowa State Apiarist for 1932 he stated: "The results of

our work this season do not check with those obtained by Farrar, that over-wintered colonies are so far superior to the five-pound package. Our packages had a flight equal to that of any colony."

Farrar reported that a five-pound package had a flying rate 3.2 times that of a normal three-pound package but very much less than that of a normal colony.

Since no full colonies are available for use in so many orchard districts it is essential that a package be developed which will serve the needs of the fruit grower. This market is of sufficient importance to justify a careful study of the problem on the part of the live bee shipper.

—ABJ—

The Honey Plants

It is interesting to note the extent to which beekeepers of different countries depend upon the same plants for their honey. In Manley's new book on "Honey Production in the British Isles" he lists as most important the same sources of honey as those on which we depend here in America. At the top of the list he places the white (Dutch) clover or pasture clover. He states that no unblended honey is superior to that from white clover.

The clovers and related plants, taking the world as a whole, are probably more important as sources of honey than any other group. While every country has plants of great importance locally, the clovers are found in every agricultural region throughout the temperate portions of the globe.

—ABJ—

More Bee Pasture

The new agricultural policy which offers a premium on the growing of legumes should work to the material advantage of the beekeeper although he gets none of the government subsidies. With the inducements now offered to farmers for the growing of clovers there is every reason to expect that marked improvement in bee pastures can be expected. One county in Vermont is said to have 7000 acres in alfalfa at the present time and government aid should increase that acreage. We may confidently expect a marked increase in all the clovers and in the area devoted to pasture. Pasture lands usually include a considerable white Dutch clover which was once regarded as the most important source of surplus honey in the northern states.

—ABJ—

Maple Syrup

In days gone by, maple syrup was a serious competitor for honey. It was regarded highly by those who had a taste for sweets of fine quality. The clearing of the land has greatly reduced the acreage of sugar maple trees and of late the quantity of maple syrup in the markets is so small as to have little effect on the demand for other sweets.

The real competitors of honey now are manufactured syrups which can be produced in unlimited quantity at low cost. Such sweets are widely advertised and have largely replaced honey in thousands of homes.

—ABJ—

Pennsylvania Leads

News reports recently have indicated that Pennsylvania has more beekeepers than any other state in the union. Several other states have a larger number of colonies of bees and produce far more honey. In Pennsylvania it is said that bees are kept principally as a side line or for their use in the pollination of fruit.

Some of the largest yields of honey are from localities where a comparatively small number of men are interested in beekeeping. It would take several dozen side line beekeepers of the kind who keep bees for orchard pollination to produce as much honey as comes from some of the large commercial apiaries.

It would be interesting to know how many commercial apiaries there are in this state which claims to have the largest number of beekeepers.

The Balsam-Wool Two-Colony Pack^{*}

By Erdman Braun,
Dominion Experimental Farm,
Manitoba.

BALSAM-WOOL was first used as protection for wintering bees at the University of Minnesota in the fall of 1928, together with a number of other insulating materials, such as celotex, compressed flax straw, wall boards, etc. The results obtained with balsam-wool the first year warranted further trial, and its use was continued in more extensive tests for the years 1929-32. The author had an opportunity of assisting with the packing and unpacking of the colonies at the Minnesota University.

The Dominion Experimental Station Apiary at Morden, Manitoba, required additional wintering material in the fall of 1931, and it was decided to give balsam-wool a trial.

The following table outlines the numbers of colonies packed and the results obtained for the five years 1931-36:

Year	Number of colonies stored in cellar	Number of colonies alive in spring	Average spring strength in frames of		
			Bees	Brood	Eggs
1931-32	64	63	5 ½	1	1 ½
1932-33	69	41	3 ½	0	1
1933-34	None	—	—	—	—
1934-35	47	44	6 ½	1/5	2
1935-36	63	59	7	1 ½	1

A discussion of the results will be left for a further report.

The main object in this article is to describe the method of packing colonies of bees with balsam-wool. At the request of the editor, a series of photographs were taken to illustrate the procedure which is difficult to visualize from descriptive material.

In Fig. 1, two colonies are shown on their summer stands, 6 feet apart. These colonies have been fed for the winter by adding a deep food cham-

ber between the hives. The roll of balsam wool is lying in the rear, between the hives. In Fig. 2, the two colonies are seen centered on the sheets of tar paper. Solid bee escape boards have been tacked to the top of the food chamber. A top entrance, made by cutting out a 3 inch strip from the lower front edge of the bee escape board, is more readily seen in both colonies in Fig. 3, which also shows the edge of the top layer of tar paper turned upwards around the lower parts of the hives, folded at the corners and tied with string. Care must be exercised to prevent tearing of the tar paper when it is folded over the projection parts of the bottom boards. The balsam-wool (1 inch thick by 33 inches wide) is then placed against the back of the hives in an upright position and wrapped around the sides and ends like a blanket, it is then tied securely at the bottom and the top as illustrated in Fig. 5. In Fig. 4, the part of the balsam-wool extending above the hives has been cut at the four corners and the flaps are seen extending outwards. Fig. 5, shows these flaps folded over the tops of the hives, the lengthwise portions being

Year	Size of second brood chamber	Number of colonies packed in fall	Number of colonies alive in spring	Average spring strength in frames of		
				Bees	Brood	Eggs
1931-32	shallow	10	9	7 ½	2/3	1
1932-33	shallow	10	9	6	2/3	1
1933-34	deep	17	15	5 ½	½	1
1934-35	deep	15	15	9 ¾	2	3
1935-36	deep	15	15	9	2	3

Statistical analysis of the above table would be of little value because of the small numbers of colonies used in the experiment. Therefore, the figures should only be used for comparative purposes. The results from overwintering colonies in a bee cellar for the same period are given in the following table:

ber containing ten fully capped frames of good quality honey. The bottom board and food chamber have been stapled to the lower brood chamber, for ease in handling. The hive entrances have been reduced to a ¾ inch opening for fall flight. Two layers of tar paper have been laid lengthwise on the levelled ground be-

^{*}The work described in this article was carried out by the author in co-operation with the Bee Division, at Ottawa.



Fig. 1—Two colonies on summer stands, six feet apart.

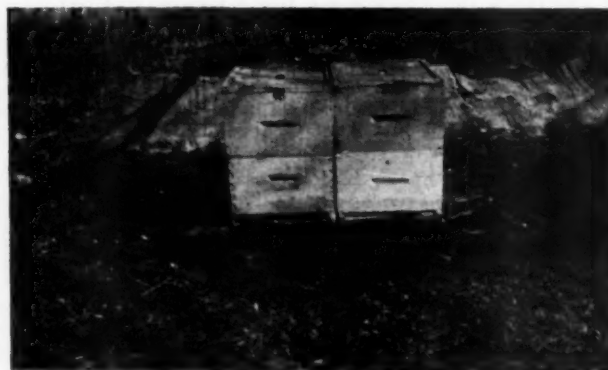


Fig. 2—Same colonies, centered on tar paper, with solid escape boards tacked on top, top entrances made in fronts.



Fig. 3—Bottom tie finished, ready for sides and top.

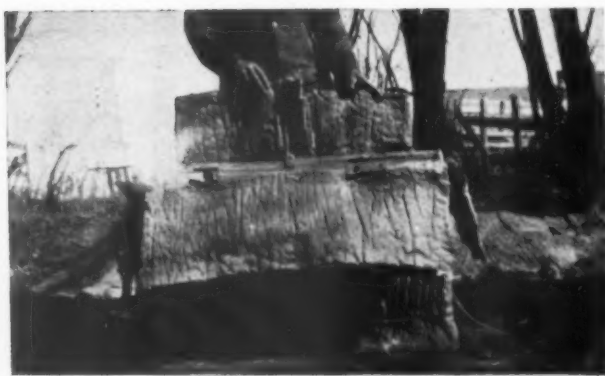


Fig. 4—Bringing up sides and top as described in text.

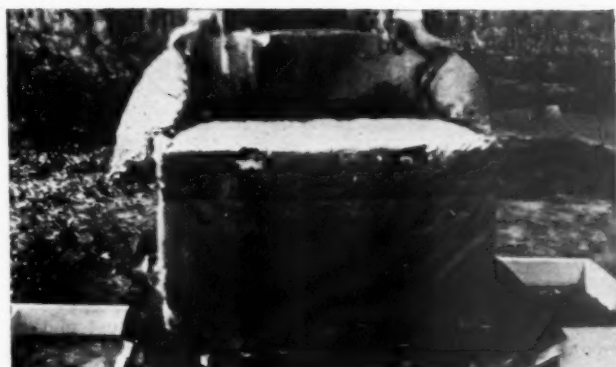


Fig. 5—Sides tied around and top going in place.



Fig. 6—Top finished, ready for Sisalkraft cover.



Fig. 7—Applying Sisalkraft or Fibreen cover.



Fig. 8—The finished pack.

laid down first and the shorter end portions overlapping them. A string is tied lengthwise over the top, to hold the overlap in place. Openings have been cut in the balsam-wool to coincide with the top entrance openings made in the bee escape boards. The edges of the lower sheet of tar paper is now folded upward over the lower edge of the balsam-wool and tied as was done with the first layer (Fig. 6). This prevents spring thaws from dampening the balsam-wool and reducing its insulating value, temporarily. Sisalkraft (a treated, pliable tar paper) is seen extended in front of the package in Fig. 6. The Sisalkraft or Fibreen paper is wrapped around the colony, in the same manner as the balsam wool, and tied at the bottom and the top of the pack.

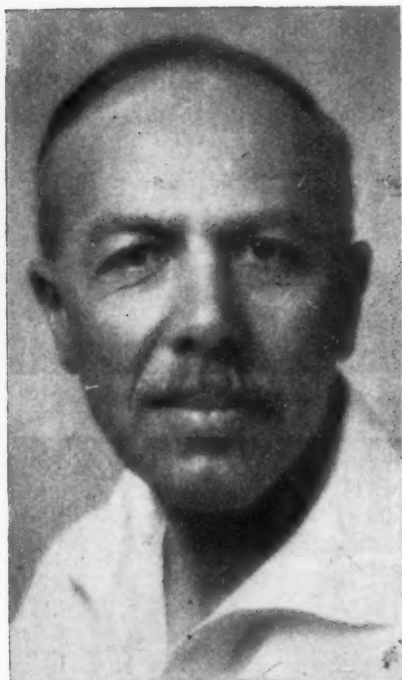
Care should be taken to see that this outer covering remains as close to the ground surface as possible when tying the lower string. (It has a tendency to ride upwards.) The Sisalkraft or Fibreen paper is not cut at the upper corners, as was done with the balsam-wool, but the extended portion is folded inwards over the tops of the hives, as seen in Fig. 7. A sheet of Sisalkraft or Fibreen is next cut large enough to allow at least a six inch overlap at the sides and ends of the pack. This sheet is laid on top of the pack, and its edges turned down so as to form a cap as shown in Fig. 8 and securely fastened by a string tied around it. A string is next tied lengthwise of the pack, over the top of the cap, attaching the ends to the lower string sur-

rounding the bottom. Two strings are tied crosswise over the cap, looping each cross string, and the ends of these tied to the lower string also. An opening through the paper and cap is made to connect with the openings in the balsam-wool and bee escape boards. A little loose dirt is finally placed around the lower portion of the pack to prevent the wind from getting in from underneath.

Table of Measurements

The measurements of the various component parts are as follows:

	Width	Length
Two sheets of tar paper, Sisalkraft or Fibreen	23"	4'6"
One layer of balsam-wool, one inch thick	33"	9'9"
One sheet of Sisalkraft or Fibreen paper	35"	10'0"
One sheet of Sisalkraft or Fibreen paper, for the cap.	36"	3'8"



A new picture of the author, E. L. Sechrist.

Honey Getting

PART VI

Continued from September, page 444.

Keeping the Bees Good Tempered

By E. L. Sechrist,
Tahiti.

THIS continues the "Honey Getting" series. The previous numbers were No. 1, March, page 122, "An Introduction"; No. 2, April, page 188, "Essential Factors in Profitable Honey Getting and How to Provide Them"; No. 3, May, page 245, "A Clear Brood Nest Method"; No. 4, June, page 348, "Getting Uniformity in Colonies"; and No. 5, September, page 443, "The Control of Queens and Swarming."

Summary of Parts I-V

Swarm control is the foundation of success in honey getting. Hence the successful beekeepers manage to re-

tain control of the queens with the least labor. The brood nest must allow as many eggs as needed immediately under the supers in which honey is to be stored. The essential factors are adequate population, location in a good territory, prompt and uninterrupted work in the supers, replacing the bees that die, strength enough at the end of the season to care for the next honeyflow.

This means good queens, plenty of stores, large brood chambers, control of swarming, room for honey.

Management may be by the free-queen method or the clear brood nest

method. The clear brood nest method includes systems in which the beekeeper confines the queen to the brood chamber in one or more hive bodies in which a brood nest is maintained where the queen may lay freely when her bees will be of most value. In its practice, the essentials are: (1) a brood chamber full of all worker combs clear of honey, (2) all colonies of uniform strength, (3) all colonies queenright, (4) clipped or similarly controlled queens, (5) ten day visits during the swarming season and colonies handled so the bees are good tempered with control of disease assured.

The three systems of management in the clear brood nest method: (1) the one-story system with one hive body, (2) the two-story system with two hive bodies throughout the year and (3) the two-story system with two hive bodies for winter and for spring until the beginning of the flow when the colony is reduced to one body. Only one system is used in an apiary.

Uniformity of colonies is necessary and very important. It means less work and more systematized work with fewer helpers and a lower overhead. Uniformity is the first essential to maximum production.

American foulbrood must be eliminated for best practice. There must be good combs, good queens, sufficient stores and a constantly clear brood nest.

No colony must swarm. Brood may be removed to prevent it and queens which will not maintain colonies of uniform strength must be replaced. Colonies under par may be given (Please turn to page 511)



The careful operator keeps his bees good tempered. Here he avoids letting robbers get a start.



Upper left—Brown Canyon.
Lower right—Dawson Canyon.



The story of "Rambler" in January, renews interest in the romance in beekeeping. In the days when he traveled J. H. Martin threw open the doors, apiculturally, and let in a blaze of sunlight that warmed the hearts of his readers. Mr. Hewes tells of the scenes of his California rambles.

Rambler's Old Haunts

By W. G. Hewes,
California.

I GREATLY enjoyed the article about Rambler in the January number. I live in the Temescal Canyon, where he made his first ramble in California. Conditions have changed greatly here in the forty-three years that have passed.

The lonely hillside where Rambler called on George Pfeifer is now covered with orange trees and is the site of a rich man's country place. The elder Wright has passed on but

a son still keeps bees there although he does not make it his home. Charles Haug is the only person who was in the canyon in Rambler's time and who has kept bees continually in the same place. Of all the old timers mentioned by Rambler, only Ed. Bonfoey, who escorted him through the canyon, and Alfretta Woods, the young school teacher of Wild Rose Park, are now living.

The names of some of them have

been kept with us by having the small side canyons in which they lived named after them. Thus we have a Joseph, a Brown, a Dawson, and an Anderson Canyon. Some of the old timers left a monument of towering eucalyptus trees on the hilltop site of their former apiaries.

Compton, who was the first ever to bring bees into the district, has a road named after him. At that time there was not an orange tree there. Now Compton road is lined, full length, on both sides with orange and lemon groves.

It was with the aid of bees that most of the first settlers kept the pot boiling, until their homesteads could be improved. They are not dead who dwell in the memory of their friends.



Upper left—Where Pfeifer and Wright kept bees.
Lower right—Eucalyptus along the hilltop where Bonfoey had his bees. The little house, of which Rambler wrote, though long abandoned, still stands.



The Beekeeper's Business

By Walter H. Hull,
Virginia.

MOST of us beekeepers could be classed as small business men, a class that has grown enormously these last years; for when a man loses his job and can't find another, if he is of a rugged disposition, or is pressed hard enough by necessity, he is more than likely to go out and make one for himself—or try to. At any rate that is what a lot of us have done, becoming thereby small business men *per se*. And a noble profession it is, too, judging by the number and quality of attributes it calls into action—muscle, brain, moral stamina, judgment, vision, perspicacity—oh, well, letter writing is what I wanted to talk about. Sometimes we neglect it to our hurt.

Last fall I wanted to buy some honey. I wrote to three different parties who had honey to sell, with results as follows: The first letter, a rush order, went unanswered for two weeks. The second waited two months for a reply. The third was never answered, as I called on the man about six weeks later and completed the business.

This is merely by way of illustration, not complaint, for later I bought honey of all these men, most of it at a lower price than offered in my letters. They all had their excuses for not answering, of course. One was sick, though not, I believe, too sick to give orders; one was not sure that he had what I wanted (though notice he did not write to find out); the third merely postponed replying until he forgot all about it. It appears from this and other similar experiences that the practice of neglecting correspondence is much too common among beekeepers. It costs money, especially when inquiries from active prospects are neglected. It adds needless weight to our already adequate selling troubles.

One reason for this condition is that small business men generally are too close to realities to care for the trite and out-worn phrases of the conventional "business letter." Instinctively they fight shy of the flowery verbiage often found in much so-called business correspondence. Since it is common belief that of such is the business letter made, they write as few of them as possible.

But listen, brother—about those airy bromides, "Yours received and contents noted," "In reply would say," "Hoping this—," "Trusting that—," "Thanking you in advance,"—your up-to-date business man feels

just as you do about them. He does not neglect his correspondence on that account, for whether you can afford to neglect yours or not, he can't. Instead, he uses them sparingly, or not at all.

There are reams of rules for the making of a good business letter, but experience boils them down to something like this:

1. Make the letter good looking.
It pays, really.
2. Be definite. Say something.
The objection to the phrases quoted above is that they say nothing worthwhile.
3. Be considerate of the other fellow. Ten to one he deserves it, but it would pay even if he didn't.
4. Stop when you have had your say.

On this last point we can stick at least one feather in the small business man's cap. His main desire when he writes a letter is to say what he has to say and be done. The trouble has been that he thought it unbusiness-like. Actually it agrees with the best business practice.

Perhaps our greatest danger is that we will unconsciously violate Rule three. I have seen letters from beekeepers that were pretty bad in this respect. Occasionally I have received them. We all have, I think; and afterward when we met the writer we have found that he had neither horns nor a forked tail, as his letter led us to surmise—that he was in fact a pretty decent sort of man.

Suppose, merely for illustration, that I have some honey to sell and you write that you will take five cases at five cents a pound. I have never heard of you before, and my price on 5-case lots is six cents. What shall I do? It is clear that I have not made a sale. Sad to relate, experience shows that many beekeepers would do nothing; for that is the sort of letter they so often neglect to answer. But here you are wanting something that I have to sell. You are a close buyer; but that, too, is rather in your favor than otherwise. So I decide to answer your letter. Shall I do it this way?

Dear Sir: I shall be glad to send the five cases of honey you want, but the price will be six cents, as that is my price on 5-case lots. Please enclose check with order.

Yours truly,

Such a letter states the simple truth. It follows Rule two; but it ignores to a certain extent Rule four, since it stops before it has accomplished its purpose, which is to lead up to a possible sale. Its greatest weakness lies in not observing Rule three, for there is no shade of consideration in it for the other fellow. It is written solely from my side of the question, so much so that it likely would defeat its own purpose.

Let's try again:

Dear Sir: Thanks for your offer of five cents for honey. If you could see your way clear to handle a car load I would be glad to ship it at that figure, which applies on car lots only. Or perhaps you would be interested in 50 cases at 5½ cents. You would not have to take this all at once, though it would be necessary to guarantee acceptance within a specified time. The price on 5-case lots is six cents.

With several hundred colonies of bees of my own, and several thousand more belonging to my neighbors within a radius of fifty miles, I have an abundant supply of honey to draw on. You can be sure that any order, large or small, that you send me will be filled promptly and that the quality will be fully up to standard. Yours very truly,

That is better. It lets you down gently, does not even reject your offer in so many words but shows why it cannot be accepted, at the same time presenting a counter proposition for you to consider.

The second paragraph is purely a sales talk but it fills a very important function. For instance, it still is not at all certain that I have made a sale. You may find what you want elsewhere at a lower price. But will know, at any rate, that here is a place you can come for honey whenever you want it. It is like an invitation to come again—drop in any time. That kind of sales talk could, and generally should, be attached to every letter of a sales nature that you send out. In that case the sales talk, carefully worded, would be kept where you could get at it easily and copied directly onto each letter as it was written.

This brings us to the subject of form letters and form paragraphs. It is a task to think up neat and tactful

ways of saying just what we want to say. This is especially true when we are tired, or pressed for time, or out of humor, or even out of practice, as we are apt to be when most of our time is taken up with production work. It is so much of a task that generally we don't do it. But here is an encouraging thing—the big business man doesn't do it, either. He has a collection of these form paragraphs, along the line of the one just mentioned, or sometimes complete form letters, that he uses wherever they fit.

The first paragraph of the letter given above could be used thus as a form in handling inquiries of that kind, changing only the figures to suit the individual case. The use of form letters and paragraphs is entirely practical for the small business man. In big offices these forms are copied onto cards and filed under separate heads. For the beekeeper the number would be small enough, as a rule, so that he could keep the general content of each in mind and file them all together under the head of Form Letters. From this collection he could pick out as occasion demanded whatever suited his need.

Nearly every public library has books on letter writing with sample forms that could be used as guides in composing these paragraphs. The latest books are the ones to follow, since styles change in correspondence as in everything else. There are also men who make a business of preparing such material.

Such a collection grows naturally as new paragraphs are added and should be overhauled from time to time to keep it up-to-date. A supply of good letter material will go far toward removing the dread of letter writing that is chiefly to blame for neglected correspondence.

—ABJ—

Agriculture in the San Diego School System

By Thomas A. Carmichael, California.

I have been teaching agriculture in the South Bay district to adult students during the last year. The course offered a study in agriculture, which was accepted and taken by about twenty-three students. In our course we followed the honeybee in its advance with civilization. Beginning with Palestine, we studied the various races of the bees, continuously advancing westward. As we contacted each race, we studied their various mannerisms and qualifications up to the present date.

We then took up the evolution of the hive, beginning with pottery carrying through with straw skeps, logs or gums up to the present modern ten-frame hive. I may as well state that even today we are reaching forward trying to improve upon what we already have. Witness

the coffin-like and various other shaped hives. We have come to no uniformity as yet, even in our own district. There are those who use the eight, nine or ten-frame hive and some of us are using all three types.

As we advanced in our course, we studied each distinct phase of bee culture until we were able, with an excellent background, to go out into the field, manipulate our frames and hives with the knowledge that we knew what we were doing.

The result of the season's return of honey is ample indication as to the worth of this class.

I have recently transferred from the South Bay district to the organization of 4-H Clubs here in the San Diego school system. As you know, the 4-H Club work is an educational enterprise of the U. S. Department of Agriculture and that the work taken up in these clubs is divided into projects of all kinds in agriculture. Among these various projects is one in bee culture, of which we now have requests from seventeen members. It is our intention to form a separate club of these members who will be under the leadership of L. T. Kitteridge of the San Diego High School and that this club will meet at the San Diego High School where there will be a series of lectures from now until spring when the club will be prepared for field work.

(Paper before demonstration meeting, San Diego. Sent in by Fred Hansen.)

—ABJ—

Heating Honey Without Stirring

By A. P. Gard.

Agitation of honey, particularly granulated honey, during the process of heating, is a highly commendable operation for the large producer who usually has a large volume to be heated at a time. His problem, especially when a large tank is used, is to heat the entire mass as quickly and thoroughly as possible without injury to any portion of it. In this case stirring is a very essential operation, which, if deleted, may cause scorching of portions of the mass.

The small producer who usually heats his honey in sixty-pound cans, has a far different problem. He must strive to avoid scum forming at the top of his honey after it has been packaged, and to prevent turbidity as much as possible. In the majority of cases, specially built tanks are impractical if not prohibitive in cost; therefore, he must pour from the heating cans into a large receptacle, from which it is drawn into the packages in which it is to be marketed; this pouring introduces extraneous air into the honey, which is not so easily expelled even though it is hot. If the honey is very hot, air bubbles may come to the surface of it as scum, or remain suspended and im-

part a very turbid appearance to it. In most cases, however, when honey is poured after heating, provided it was not agitated much previously, it will retain its clarity, and only a negligible amount of scum will form. Whenever honey is poured after heating, it should be allowed to strike the side of the tank and settle for about one-half hour.

If you are heating granulated honey, after it has been subjected to heat for a while, you break up the undissolved portion in the can by stirring, the result will be that your honey will retain its turbidity for several days or longer; during this time scum is constantly rising to the surface where it will certainly detract from its appearance and salability. When granulated honey is heated in a sixty pound can or similar container, there is not much danger from scorching, especially if it is almost entirely surrounded by water. If the honey to be heated is granulated into a solid mass, relieve this condition somewhat before heating by placing it in a hot room or near a hot air register for several hours or days. If it is then heated to 160° F., it will liquefy quite readily without injury, so that agitation is unnecessary.

—ABJ—

Honey Hunter of Tanganyika

Nature, Vol. 137, May 30, 1936, p. 911.

An isolated group of Wangindo in the north-eastern foothills of the Mahenge massif, Tanganyika Territory, live the life of their forefathers, for geographical reasons little influenced by the outside world. There are only a few hundreds of them, their more numerous kinsmen living a long distance off cross the Liwale District border. They have no stock, but disliking the settled life of agriculture, hunt game with poisoned arrows, and above all like to wander off, sometimes for weeks, in search of honey. In an account of these people by the Rev. A. T. Culwick in "Man of May," it is said that honey is the keystone of their economy. The Wangindo thinks in terms of honey, his house smells of it, his children are smeared with it, and his conversation invariably turns to "that hollow tree two days' walk away where the bees are." The honey bird is his greatest friend and he will follow its call for days. When the tree with the honey is found he cuts it down, taking the honey, but never failing to leave some of the grubs for the bird. The Wangindo make beehives, but do not hang them near their villages. They place them far away in inaccessible parts of the forest, finding them unerringly without blazing. The beehives are cylinders made of strips of bark of the *miombo* tree. One end of the cylinder is closed by a flap of bark bent over and held in place with

a piece of string passed through holes. It is placed in a tree with the open end rather lower, to prevent the rain from getting in. Occasionally, but not universally, aromatic herbs are put in to attract the bees. When the honey is ready, the bees are driven out by smoke from a grass torch. The honey is placed in a bowl of hartebeest skin and lowered to the ground by a rope attached to

tongues of skin left for the purpose. The honey is squeezed from the comb by hand and eaten uncleaned. The wax is boiled, filtered, and then remelted into lumps for sale to traders. Though many Wangindo are travelled and even have been in Government service, they always return to their wild life.

Dr. M. C. Tanquary,
Minnesota.

—ABJ—

Contrast



TWO pictures of one of Arthur Shultz yards, Ripon, Wisconsin. The top one reminds us that the winter of 1935-36 was a ring-tailed roarer. Let's hope it won't repeat itself.

The same yard this summer, with supers piled high, indicate that no good beekeeper can be put out of business, even by an adversity like that following one of the severest winter periods in history.



—ABJ—

Observations in Selling at the Apiary

For years it has been the practice of some beekeepers here to sell much of their honey in bulk at the apiary, the consumer furnishing the container. It seems incredible after nearly

30 years' operation of the Pure Food Law that there should be so general a belief that much honey is not pure. Personally, I have never found any adulterated honey on the market. But when his honey is drawn from a tank or five-gallon can at the apiary, the consumer is positive it is pure. He will travel as far as 40 miles,

coming and going, to buy a pint or more in his own container at a saving of one to two cents a pound over what he could have it delivered at his home from the local store. Auto travel is a matter of course seldom to be considered as part of the price of the honey.

Besides purity he wants the flavor he likes. So he gets a taste of the different kinds to decide what he likes best. Density is of little or no concern, but it would be folly to sell honey that would not keep until used up. Very thin honey should always be heated.

Of course, I am not adversely criticizing the consumer. If he wants to take a pleasure trip to the apiary to buy his honey, I am going to sell him what he wants as he wants it.

The drawback with this method is that sales drop off quite abruptly in the fall when the roads and weather no longer make motoring a pleasure. From then on the honey must be sold mostly wholesale or through the stores.

Ivan Whiting.

—ABJ—

Illinois Conservation Program

The University of Illinois through the Extension Department has launched a campaign among farmers through the county agents to interest them in soil conservation in their respective counties.

Each county agent sends out a letter with facsimile of a letter from Dean H. W. Munnford of the Extension Service at Urbana advising farmers to adopt a soil conservation and improvement program on their farms to include the growing of red clover, sweet clover and alfalfa, or other legumes, regularly in crop rotation.

Quoting from Dean Munnford's letter "The very foundation of soil-conservation and improvement is the consistent growing of clovers. They add nitrogen, build up and maintain the active organic matter, conserve moisture, help control erosion and check leaching of plant food."

"You can't make clovers grow, however, on land that's acid—that lacks limestone. You are barred from carrying out a sound soil-conservation and improvement program until you sweeten those soils. Illinois farmers' record use of seven million tons of limestone in the past fifteen years is only a start. The fact is, there is still so much acid land in the state that it would take fifty-five million tons of limestone to sweeten all of it."

"As long as you're not using the limestone your land needs, you're not only barring yourself from taking full advantage of a soil-conservation program, but you're also losing more than the limestone would cost. It's

a dead waste of seed to sow clover and alfalfa on acid land. Don't let a little limestone bar you from starting your own soil conservation program at once."

This is important for beekeepers inasmuch as the program, which is a national one, includes the planting of sweet clover and other clovers of importance in honey production. The increase in the amount of sweet clo-

ver in the state of Illinois alone in the last few years, because of this constant recommendation on the part of the Extension Service, has changed beekeeping conditions so that the state now looks upon the industry as one of its important minor agricultural ventures and beekeepers are enjoying prosperity never before possible.

—ABJ—

Relish and Pickle Recipes

Mrs. A. Bodenschatz,
Illinois.

Mrs. Bodenschatz' honey caramels won second in the Detroit Cookery Contest. So she should get a good hearing with these relish and pickle recipes. Few beekeepers' wives know their "honey" as well as she does.



MRS. BODENSCHATZ

TRY sweetening your pickles and relishes with honey and I will venture to say that you will never can your pickles or relishes any other way, but be sure to use a light honey. Last year I put up my relishes and pickles with honey for sweetening instead of sugar and they are just as good today as the day I put them up. I use any of my old recipes and I use just half as much honey as the recipe says to use sugar and no sugar and find they are delicious. Some people like their food sweeter than others, if so, they can add a little more honey but in canning cucumbers they will shrivel up if you use too much sweetening. I am sending a few recipes I made last year.

Uncooked Pepper Relish

1 dozen green cucumbers, peeled. 6 green sweet peppers. 6 red sweet peppers. 6 large onions. Grind all very fine. Put in gallon crock and add $\frac{1}{2}$ cup of salt and let stand over night. Then drain off liquid by tying double cheesecloth over crock and tilt crock for 1 hour, then add 2 cups light honey, 3 tablespoons celery seed, 4 tablespoons mustard seed, vinegar enough to cover. Let stand 3 days and stir 3 times daily, then seal in sterile jars. This recipe makes nearly 1 gallon.

Honey Health Relish

4 large carrots. 1 head of cabbage. 9 green sweet peppers. 9 red sweet peppers. 8 white onions. Grind vegetables very fine, then add $\frac{1}{2}$ cup of salt and let stand 3 hours then drain off liquid and add 1 quart of vinegar, 3 cups of light honey, 2 tablespoons celery salt, 2 tablespoons mustard seed. Dash of red pepper. Boil for 15 or 20 minutes and seal in sterile jars.

Honey Bread and Butter Pickles

1 dozen medium cucumbers. Peel and dice them. 3 or 4 onions. Let stand in salt water over night, then drain off liquid. Then take 1 quart of vinegar, 1 cup light honey, 1 scant teaspoon ground pepper, 1 teaspoon tumeric powder, 1 teaspoon celery seed, 1 teaspoon mustard seed. Boil above and then drop in cucumbers and onions and bring to a boil and seal in sterile jars.

Honey Pickled Seckel Pears

1 cup honey, 2 cups vinegar. 2 cups water. 1 teaspoon whole ginger. 2 sticks of whole cinnamon. Boil and drop in peeled pears and boil slowly for $2\frac{1}{2}$ hours and then remove ginger and cinnamon and seal in sterile jars.

Honey Pickled Beets

Break off tops of beets. Leave about 2 inches of the tops on so you will not bleed the beets. Scrub good with vegetable brush and boil until tender then pour enough cold water over them so you can handle them. Then peel and slice them. $\frac{1}{2}$ cup honey. 2 cups water. 1 cup vinegar. 1 level teaspoon pickling spices. Boil, then drop in beets and let come to a boil and seal in sterile jars.

Honey Mincemeat

2 pounds lean beef, 1 pound chopped suet. 4 pounds tart apples. $\frac{1}{2}$ pound citron. 2 pounds raisins. 3 pounds currants. 2 lemons. 2 oranges. 1 tablespoon salt. 6 cups honey. 1 teaspoon each of ground nutmeg, cinnamon and cloves, and $\frac{1}{2}$ teaspoon ground mace. Stew meat in as little water as possible until quite tender. Cool and chop fine. Add apples, peeled, cored and chopped fine. Rind and juice of the 2 oranges and the rind of 1 lemon and the juice of 2. Then add the rest of the ingredients and mix thoroughly and boil for 1 hour (this burns very easily). Seal in sterile jars. I saved my liquid that was left from my honey pickled pears and sealed it in sterile jars and used it to thin my mincemeat and it sure was delicious.

—ABJ—

Iowa Apiarist Report

The annual report of the Iowa State Apiarist for 1935 is off the press. This is the 23rd report issued and the 17th for Prof. F. B. Paddock the present State Apiarist. As usual the papers from the beekeepers' convention are included in the volume. This year's issue contains 87 pages.

While the Iowa program of disease control features educational methods, a total of more than 15,000 colonies of bees were inspected during the year only 619 of which were found to be diseased.

Of special interest is the outline of the twenty-year plan of work for the office. Prof. Paddock presents a comprehensive program which recognizes disease control as only one of the important objectives.

Those wishing copies of the report should write directly to Prof. F. B. Paddock, Ames, Iowa.

—ABJ—

New Bee Bulletin

"Beekeeping in California" is the title of a new bulletin by J. E. Eckert recently issued by the University of California at Berkeley. It contains 71 pages and is a rather complete beginners text for California conditions. It offers but little which is new but covers the fundamental problems of the beginning beekeeper in a comprehensive manner. Copies may be secured by addressing the University.

Gauging a Queen's Prolificness

By J. E. Eckert,
University of California.

THE production of a colony of bees depends, to a great extent, upon its numerical strength and this condition requires a high egg-laying rate by the queen for several weeks or months at a time. The factors which govern the ability of a queenbee to lay a large number of eggs are not well understood but in the absence of information to the contrary, it may be assumed to depend upon the physiological condition of the queen, the size of her ovaries, her mating, and certain inherited characteristics.

Whether a large queen is capable of laying more eggs than a smaller one is still to be determined although such is assumed to be the case by beekeepers in general. It is also not known whether a queen with a large number of ovarioles can lay more eggs than one with a smaller number, and it is difficult to determine accurately the length and breadth of a queen's ovaries and to correlate them with her egg-laying ability. Undoubtedly, the rate of metabolism of a queen plays a very important role in her egg-laying rate and it would be of value to the beekeeper to have some external factor by which to judge this potential value.

The purpose of this paper is to present the results of studies to determine the relation between the size of ovaries in queenbees as indicated by the number of ovarioles and their body size.

Methods

Due to the fact that the honeybee in the United States is the result of the importations of different strains from European countries, it is very difficult, if not impossible, for us to secure definite line-bred strains of Italian bees. A select tested queen was therefore secured from one of our foremost queen breeders for use in these studies. This queen, Number 61, produced workers, drones, and queens that were evenly marked, thus indicating pure mating for two or more generations. Different lots of queens were reared from her as well as from her daughters and the average size and number of ovarioles of each lot was determined. Body measurements and ovariole counts were taken also of queens reared from other so-called strains of Italians for comparison. All queens were reared according to recognized commercial methods of queen rearing and the conditions of environment were made as similar as possible. An attempt was also made to check the influence

of age of larva at time of grafting on the number of ovarioles and size of queen. More than two hundred and eighty queens were examined in these studies.

Methods of Counting the Number of Ovarioles

In counting the number of ovarioles in the ovaries of the queens, two methods were tried. In one, the ovaries were sectioned and the sections projected on a wall chart by means of a Leitz projector. This method was found to be slow and did not give uniform counts for serial sections taken from any one ovary. The second method consisted of making a direct count of the ovarioles under a dissecting microscope. In this method, the right and left ovaries were placed in separate vials of Bouin's solution and allowed to remain for approximately ten minutes, after which time the ovarioles had hardened sufficiently to permit separation without tearing or breaking. To facilitate the count, the top third of each ovary was cut off and the ovary divided longitudinally into ten to fifteen parts as the count progressed. This method gave accurate results and the counts secured were higher than those made by the projection method. Laying queens were used in both methods.

Since the weight or total length of an emerged queen was found to vary with her activity and with environmental influences, the size of a queen was determined by taking various body measurements. The following measurements were taken by the use of the projector during which a magnification of one hundred times was used:

1. The extreme width of the head.
2. The length of the head as indicated by the distance from the vertex to a horizontal line drawn between the outer edges of the articulations of the mandibles.
3. The length and breadth of the wing, the length of the radial cell, and measurements of two wing veins.
4. The length of the femur.
5. The length of the tibia.
6. The length of the first tarsal joint.

The Number of Ovarioles in Queen Honeybees

According to Koshevnikov, as reported by Alpatov, rudiments of the future ovaries in the honeybee are present in the newly hatched larva.

During its larval life the number of egg tubules increases and at the moment of transformation of a larva into a pupa, the larval ovary contains approximately two hundred embryonic egg tubes. At the beginning of histolysis the ovary of the worker larva ceases to increase in size, unlike the ovary of the queen, which grows more and more. Only one to twelve tubes develop in the worker larva while in the queen larva, all the egg tubes develop perfectly and give rise to the enormous ovary of the mature queen. The factor, of course, which causes the difference between this development in the worker and queen is the nourishment each receives during its larval period.

In light of the above facts, any difference in the number of egg tubules in queens reared under similar environmental conditions would be due, most likely, to inheritance. Our data for 280 queens, taken from fourteen different strains of Italian bees showed that such a tendency apparently exists. However, the number of specimens examined for each strain was not large enough to establish this fact beyond a reasonable doubt. The number of ovarioles in different queens of the same strain was found to vary considerably and an extreme variation of over one hundred ovarioles existed between individual queens of different strains. The variation from the mean numbers of all strains was only a minus twenty-seven and a plus twenty and there was a difference of only seven-tenths in the number of egg tubules between the left and right ovaries of all queens, in favor of the right. The highest average number of ovarioles in any strain examined, in which thirty or more specimens were available, was 338.5 while the lowest average number was 298.7.

When queens were reared from larvae, that varied from twelve to seventy-two hours of age at the time of grafting, and produced from the same queen, no correlation was indicated between the number of ovarioles in the mature queens and the age of larva. In this experiment the bees would accept no larva that was older than seventy-two hours, although repeated attempts were made to get them to do so. Zander and Becker report success in getting bees to accept larvae up to three and a half days from the egg stage and produced from those over three days of

age forms that were intermediate between the queen and worker bee. They also produced intermediate creatures by reducing the amount of food in queen cells during the developmental period. Out of two hundred eighty-one queens examined during the past season, only one intermediate form was found and that was produced by a nucleus. This queen had only two hundred thirty-one ovarioles and was no larger than a worker bee in size.

The Size of Queens

Alpatov reports that the size of the worker bee depends upon such environmental conditions as age of nurse bees, size of cell, and the differing environmental conditions of the seasons. Nutrition, temperature, and the size of cell have the greatest influence upon the size of bee produced. Body proportions remain much the same between small and large bees of the same strain while there is a relatively smaller difference between the body appendages; i.e., small bees have relatively longer tongues and legs than large bees. Similar correlations may be assumed to exist between body measurements and appendages in the case of queen bees.

In the present studies no definite correlation was found to exist between the size of eighty-three queens and their number of ovarioles. This might be expected from the fact that the ovarioles of the queen originate in the larval stage before the factors of nutrition, temperature, and size of cell have had time to be effective. It is evident, therefore, that the size of queen cannot be used as an index to the number of ovarioles a queen may have. Although it remains to be demonstrated whether a queen with a large number of ovarioles can lay a correspondingly larger number of eggs than one with a smaller number. It seems evident from these studies that other measurements than the number of ovarioles should be considered as indices of potential egg-production.

In the case of the queens reared from larvae of different ages at time of grafting, queens produced from sixty and seventy-two hour larvae were progressively smaller in size than those produced from younger larvae. These results agree with the evidence of Zander and Becker. Although there was but little external or internal difference between queens reared from three-day-old larvae and those reared from younger larvae, other than a slight difference in size, three queens reared from the former were superseded within two months of the time they were introduced into normal colonies, thus indicating inferiority of these queens.

Summary

It was demonstrated that the num-

ber of ovarioles in queen bees of different strains vary with the strain, thus indicating an inheritance of this character.

No correlation was found to exist between body size and number of ovarioles in queen honeybees.

In queen bees reared from larvae that varied from twelve to seventy-two hours of age at the time of grafting, no significant difference was found in the number of ovarioles of the different classes. Queens reared from sixty and seventy-two-hour-old larvae were progressively smaller in body size and three queens reared

from seventy-two-hour larvae proved decidedly inferior when introduced into normal colonies. The bees would not accept larvae that were more than seventy-two hours old.

—ABJ—

Bowe-Perry Pie

Just bought a Bowe-Perry, Honey Coconut Pie. Quite good when prime and fresh. Might have a bit more "juice" in it. St. Louisans will know the line—Little Jack Horner, Crispy-Crust, Fresh Fruit Pies. Each pie 4 ounces, selling for a nickle. Lots of honey can tickle palates in this way.

—ABJ—

Federal-State Plans for Investigations on the Resistance of Honeybees to American Foulbrood

Division of Bee Culture,
Bureau of Entomology and Plant Quarantine,
U. S. Department of Agriculture.

UPON invitation of the Bureau of Entomology and Plant Quarantine a conference was held at Ames, Iowa, July 20, to discuss methods and policies for conducting an investigation of the resistance of honeybees to American foulbrood. Such an investigation was authorized by the last session of Congress through an appropriation of \$7,500 to the Division of Bee Culture, Bureau of Entomology and Plant Quarantine. Through the courtesy of the Iowa Agricultural Experiment Station a conference room and other facilities were provided. Officials of the Bureau and representatives of the Agricultural Experiment Stations of Iowa, Wisconsin, and Wyoming, were in attendance. The Agricultural Experiment Station of Texas, which has signified its willingness to cooperate, was not represented.

The Iowa Agricultural Experiment Station was represented by Dr. W. H. Stevenson, Vice Director, Dr. C. J. Drake, in charge of the Department of Zoology and Entomology, Prof. F. B. Paddock, and Dr. O. W. Park.

The American Bee Journal, already cooperating with the Iowa Experiment Station on a similar project, was represented by H. C. Dadant, Roy A. Grout, and Frank C. Pellett.

W. J. Maytham was present as a delegate from the Iowa State Beekeeper's Assn. The Wisconsin Agricultural Experiment Station was represented by Prof. L. J. Cole, Chairman of the Dept. of Genetics, and Prof. H. F. Wilson, Chairman of

the Dept. of Economic Entomology. The Wyoming Agricultural Experiment Station's representative was C. H. Gilbert, Associate Research Apiculturist. There were present from the Bureau of Entomology and Plant Quarantine, Jas. I. Hambleton, W. J. Nolan, M. P. Jones, Extension Specialist; Drs. C. L. Farrar and A. P. Sturtevant, Laramie, Wyo.; Dr. Otto Mackensen, Baton Rouge, La.; and Harry Laidlaw, Madison, Wis.

The tentative plans include a search in this country and abroad for stock having a history of resistance to American foulbrood, the testing of such stock under experimental conditions to determine whether it does possess resistance, then breeding to perpetuate the resistance and to incorporate other desirable characteristics.

General supervision of the entire project will be centered in the Division of Bee Culture, of the Bureau of Entomology and Plant Quarantine, U. S. D. A., while specialized phases of the work will be taken care of by the cooperating agencies. Thus Iowa and Wyoming will assume the task of subjecting stock undergoing tests to standardized doses of infection to determine definitely whether it has resistance. Those in charge for Iowa will be Dr. O. W. Park, and Prof. F. B. Paddock. Prof. C. H. Gilbert will be in charge for Wyoming, where studies will also be made of the tendency of various strains and races to become infected naturally as opposed to artificial inoculations. Texas, under the leadership of Prof. H. B. Parks,

will rear in quantity for further testing, queens from stock that appears to possess favorable characteristics. Records of all queens will clear through the Wisconsin Agricultural Experiment Station and Professors Cole and Wilson will serve in a consulting capacity with respect to breeding activities. Mr. Harry Laidlaw, working at the University of Wisconsin, will devote his time primarily to the perfection of methods for controlling matings. Dr. A. P. Sturtevant, of the Laramie Laboratory of the Division of Bee Culture, will have charge of the various bacteriological phases, including a study of differences in the virility of possible strains of *Bacillus larvae*. The facilities of the Division's laboratories at Beltsville, Mo., Baton Rouge, La., and Davis, Calif., will also be employed in various phases of the work.

It is hoped that the services of State apiary inspectors will be available in locating colonies showing dis-

ease resistance characteristics. It is also hoped that individuals owning colonies believed to possess disease resistance will communicate with their State inspector or with any of the cooperating agencies.

The fact that investigations of this type will have to be carried on over a period of years was repeatedly emphasized during the conference. All in attendance fully recognized that immediate results could not be expected and that it will not be possible for some time to distribute stock for breeding purposes. Those in attendance recognized the importance of not arousing undue hopes that the development of resistant strains would eliminate the necessity of using present methods for combating American foulbrood. To assure that the results of the studies would not convey an erroneous impression, they reached an agreement as to the method to be followed in making public results obtained as the investigations progress.

is produced in Florida than if it is produced in a northern state.

(6) The statement "tupelo honey from the Apalachicola district granulates very slowly" is also incorrect. Pure tupelo honey never granulates.

—ABJ—

Illinois Association Mid-Summer Meeting

The mid-summer meeting of the Illinois Association at Marissa, Sunday, June 21st, was the most successful ever held in that part of the state. In addition to a large number of beekeepers, there were thirty-seven counties from Illinois represented from the north to the south, total number registering being 267 of which 110 were members of an association. There were 5,411 colonies of bees represented.

A novel innovation at this meeting was the use of an amplifying system making it possible for all speakers to be heard without effort.

The space is too short to report on all the good things from different speakers. M. G. Dadant in "What About Our Honey Market" gave timely and instructive information. Dr. Milum, of the University, upset all our ideas about the granulation and discoloration of honey in his talk on that subject. W. G. Duckwall, president of the State Association, told us all about "What We Owe the Industry." Mr. Duax with his subject "The Association" gave us a lot to think about.

A new face was added to the speakers in the person of James Dadant with an interesting paper on bees and equipment. Jim is one of the latest generation of the Dadant family and we hope to see more of him. James A. Farmer in "Beekeepers' Laws of Illinois" taught us much about that subject. We were pleasantly surprised to have Mrs. Jensen of American Honey Institute at the meeting to tell us of that institution.

The honey baking contest conducted by Mrs. Duax created much interest. There were entries from all parts of the state, with three kinds of cakes and cookies. Twenty persons entered the smoker contest. And did we have some smoke!

In the letter writing contest on the subject "Why I Take a Bee Journal" and "Why I Belong to an Association" there was much interest shown. Prizes were given for the oldest, the youngest beekeeper, the beekeeper coming the greatest distance, and for the best display of honey, a total of seventeen prizes.

O. G. Rawson, Sec.,
St. Clair Association.

Some FACTS About Florida

By Robert E. Foster,
Florida.

I READ with a great deal of interest the article in the August American Bee Journal, entitled "Observations on Beekeeping in Florida" by Isaac S. Diller, M.D. After reading this article carefully, I think that there are some parts of it that should be corrected. I do not think it would be doing justice to beekeeping in Florida to let these statements stand.

(1) In regard to black mangrove: Mr. Diller states that "black mangrove grows along the coast south of Palm Beach on the east coast and south of Tampa and St. Petersburg on the west coast." He states that "the black mangrove has a small, green flower which is quite unnoticeable, and produces a large amount of dark honey."

The black mangrove grows along both coasts from Daytona Beach on the east coast around to Tampa on the west coast. One of the best mangrove sections being on the east coast near New Smyrna, which is over one hundred miles north of Palm Beach. The black mangrove has a blossom with white petals and a cream colored center. When the trees are in bloom the blossoms may be seen for a long distance. Black mangrove honey is almost water white.

(2) The photograph of an individual saw palmetto is the picture of a Washingtonia Palm.

(3) Dr. Diller refers to a member of the pea family with large yellow blossoms, stating that it produces a

dark colored honey. He evidently has reference to the partridge pea. This is one of the best honey producing plants in some sections of Florida, and produces a very light amber honey. Some beautiful comb honey is produced from this source.

(4) The statement that honey production in the Miami district is comparatively large is misleading. It is possible that Dr. Diller has reference to the section 25 or 30 miles south of Miami. His statement would lead readers to believe that the honey production in the city of Miami is large. It is very unusual for bees situated in the city of Miami to secure a crop of honey. In fact, most of the beekeepers who have had bees in the city of Miami have found it was necessary to move them out, either north or south of Miami, in order to secure a profitable honey crop.

(5) The statement that "comb honey in Florida is not easily produced because of the heat, and even in winter the sections leak badly" is incorrect and misleading. There are beekeepers in Florida who produce as fine comb honey as I ever saw. The heat does not affect comb honey. In fact, comb honey will not melt as quickly in Florida as it will in other states farther north. We all know that if comb honey is handled in a careless manner so that it is broken, it will leak, but a good grade of comb honey will not leak any more if it

Charles Augustus Kruse Master Comb Honey Producer

Charles Kruse, left, with Carl Killion his former student and helper.



ONE of the most interesting of the veteran producers at the "Wabash Valley Round-Up" was Charles Augustus Kruse of Illinois, master comb honey producer. The pictures on this page were taken at his place in September last year following the first Wabash Valley Round-Up and show interesting points in his management.

Preceding this visit, a series of articles were carried in the 1934 volume of the Journal, beginning in

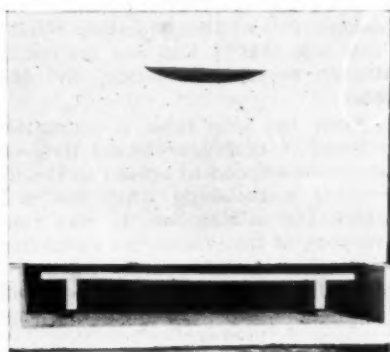
April and ending in September, discussing his entire system.

Mr. Kruse was introduced by the Wabash Valley host, Lee Roy Stewart, of Newport, as "the best comb honey producer in the world today." Probably true. Mr. Kruse feels now as though he were in the last half of a long career, although those of us who know him well think that he

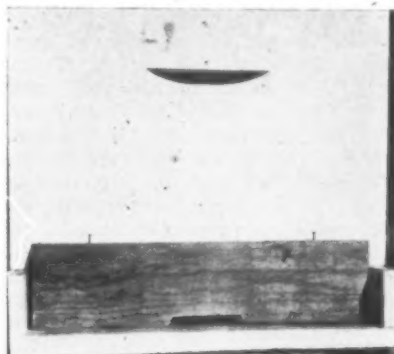
should be a leader and a heavy producer of comb honey for many years to come.

Beginning in 1910 with 30 colonies for comb honey, Kruse has been a student of bees and comb honey production—a hard worker—in all the intervening years. He is a genuine enthusiast, striving to produce the finest product, **placing quality before quantity.**

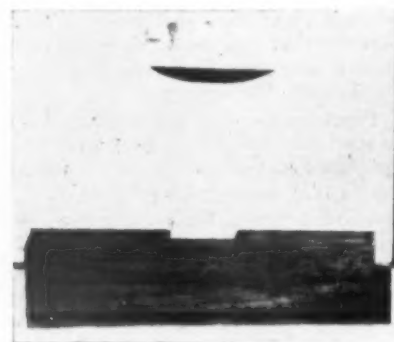
Outstanding in his efforts has been selecting a bee for comb honey stock,



The Miller slatted entrance or false bottom board, used in Kruse eight-frame hive to prevent making comb in the deep bottom space.



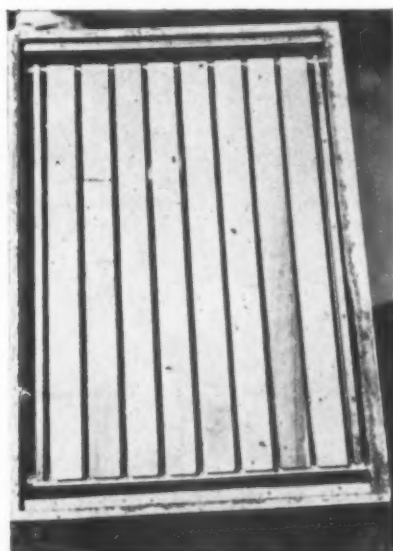
Reversible entrance block, with the small side down. Note the nails for fastening and the top nails for reversing.



Reversible entrance block with the wide side in use.



Moving guard or entrance closer made of wire screen frame. Hive top is of simple construction and made not to warp.



Kruse eight-frame hive with tops of combs to show false ends for air and side division boards with springs at left to tighten. Wood of frames and hive paraffined to keep down propolis.

that will produce the finest sections with uniform cappings and have long life, with unusual gentleness. For every worthwhile comb honey enthusiast and expert producer this program is a necessary one.

In giving his experience of 27 years, Kruse shed some interesting light on this career as a means of earning a living. This business which he loves so well has succeeded in earning him an average income of \$1760 net per year for 26 years in addition to his home, generous vacation periods in the South, trucks, cars, and equipment to carry on his work. The production for 1936 of 150 finished Grade A sections per colony on the first flow is typical of Kruse's results.

In summing up his philosophy for the benefit of others, he says: "To succeed with bees you must love bees and beekeeping and work consistently toward the objectives which will lead to your success."



Dinner is served, a lack of seats but not of appetite. First to left, G. W. Karsten. At his left, County Agent Langenbacher. Fourth man, at left of table, H. H. Hollman, Warrenton, Mo. Man with straw hat, standing, is W. C. Wilson, President of the Association. Lady in apron at his right, Mrs. Wilson.

SWAPPING retrieves disused articles to be returned into useful channels, and seldom, if ever, does the swappee hold the proverbial bag. Yet, while swapping exactly hasn't become a national pastime, one must concede that depression finances have gone a long way to bring about such distinction.

Picnics offer fine opportunities for swaps, minor, major, and gigantic; not always necessarily of material things as, a rusty hive tool for a crooked screwdriver, a tin butcher knife, or what have you. The bee-man's disposition must be magnanimous, indeed, before he will give any thought to a swap of that sort, even if the hive tool be a rusty one. A deal

Do You Swap?

By H. A. Insinger,
Missouri.



that might be more certain of consummation would be an offer to swap off a colony of critters that's possessed of a hefty business end and instinct—fighters and producers—for a hive of Stevenson's most gentle golden Italians.

Most picnic swaps, without question, are of verbal nature. To be sure, they are such when beekeepers from St. Charles and St. Louis Counties get together for their annual fish-fry. While not everyone invited comes, if they did the organization might be hard put to get sufficient fish and all the picnic trimmings, yet a goodly crowd gathers that will make the day a happy one, as well as productive of enough swaps in the line of practical beekeeping ideas to last the try-everything-once addict until the next picnic.

In the morning, early enough to escape the scorching pavements, the

beekeeper loads his queen and little workers into his "rolling stock," where room will be found, somehow, among the collection of baskets. He is off toward Blanchette Park on the outskirts of St. Charles. As he finally lands there he is likely to find the "committee" in a big sweat to get the fish ready for the pan, while other arrivals are unloading baskets upon baskets, full of this and that. What's "this and that"? You are invited to attend one of these affairs and find out.

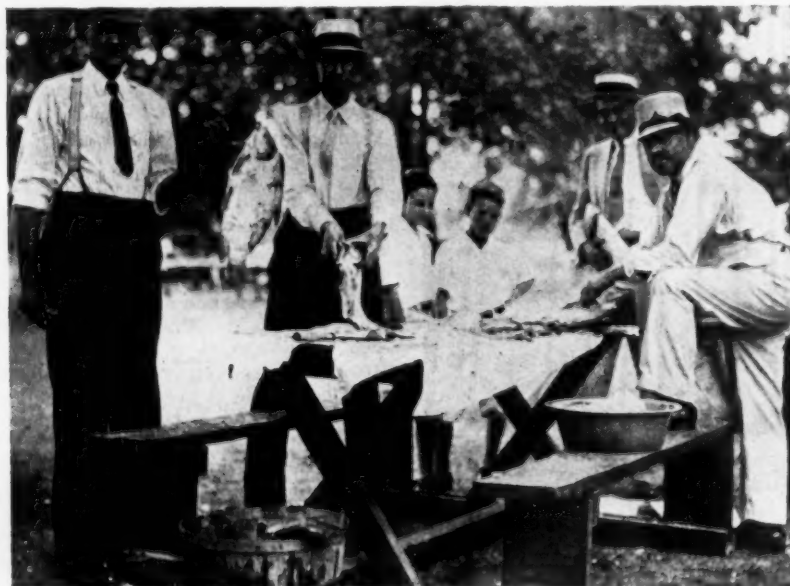
After the long table is ultimately relieved of its dangerous sag, the good wives condescend to attend to the inevitable dishwashing while the men attack the talking-bee. In due time everyone at the session has unburdened his heart, and, in some measure, each one has derived some profit from the exchange of ideas and suggestions in beekeeping practice.

The ubiquitous flock of children in the meantime tries its level best to wreck the extensive, sturdy playground equipment. At least for that afternoon the mothers are relieved of their care and find opportunity to give time and attention to the big and "little" happenings since the last picnic. This exchange of news, of course, finds itself plentifully interspersed with detailed explanations along their particular line of culinary art, probably a favorite pickle, preserves, or cake recipe.

Time passes too quickly for the gathering, and as for the decision just who loathes most to pack up for the inevitable return trip, it is difficult to make. In the final analysis, however, the picnic day is considered to have been time well spent, and so, with a "Will see you again next year," the dispersing crowd brings the day to a successful close.

The women folk usually are held up as examples of inveterate talkers, BUT, have you ever attended a beekeepers' picnic?

Getting a couple bushels of fish ready for the pan. Fred Solto, F. F. Willmess, Charles Denny, and John Little.



Glass Honey Containers

By Allen Latham,
Connecticut.

SCARCELY a year during the past decade has gone by that has not brought out some design for glass honey containers. This must be due to dissatisfaction with the containers already obtainable but all too often it is due to the pernicious desire to have something new and distinctive.

A container must look well, that is very true. However, it is not the container the buyer is after. It is the honey. This must be true if we are to sell honey. If it is glass we are selling, then the market is soon satisfied. People do not eat glass. After they have bought one or two jars of honey because they are attracted by the container, they will no longer buy it unless the honey in it suits them.

A tall jar of honey is on the table. Johnnie dips into it with a teaspoon and then lets go. The spoon sinks to the bottom, handle and all submerged. Disgust is stirred up. How soon will another such jar be bought?

A square container is on the table. It is short and the spoon does not sink. The honey is safely removed until one vainly tries to get the last of the honey. It eludes his efforts. The thrifty mother thinks: "When I buy honey again, I shall try to get a jar with fewer corners."

A fluted jar is beautiful to look at and so one is bought and set on the table. Again the thrifty housewife notices the difficulty with which all the honey is removed.

Three or four years ago a container came out with a design imitating the section of honey; an extremely attractive shelf package. It caught the eye. Purchases at once resulted. When I first saw that package, I told the storekeeper I would give it two years of life. One rarely sees it in any store here today.

A beautiful container came out a year or so ago; that is, beautiful from the point of view of the designer. It imitated the old straw skep. This jar has the good point of being shallow, but I would not accept it if I could get it free of cost. I cannot see how thrifty housewives will give repeat orders to honey in that container.

Recently a really beautiful jar came out in several forms, the "Sky-line" and the "Sunburst" and I do not know how many others. Each well designed for everything but practical honey selling. As a shelf jar, each is beautiful. How about table where the honey is to be used?

Each one has several faults. Each is too tall, making it dauby to get the honey out. Each is narrow one way making it easy to tip the jar

over. Each has sharp angles making it difficult to get out all the honey.

We wish to sell honey in a container with a minimum cost for glass, a minimum effort in the removal of honey, and a minimum chance of arousing the ire of the housewife.

I visualize a container that, so far as possible, is a perfect sphere on the inside; a round, squatty jar that will not easily tip over; that will not sub-

merge a spoon; that allows all the honey to be scraped out to the satisfaction of a thrifty housewife.

Such a container has its difficulties. Labelling it is a problem. Why not label the cover and let the honey speak for itself from every point of view? Such a jar takes up considerable room laterally. It is less easy to handle in some ways.

However, we wish to sell honey to families repeatedly. If we are to depend on occasional sales, we shall not get far. We must sell in a container that every week will bring another jar into the average family. Fifty-two jars per average family per year should be our aim.

—ABJ—

"World's Largest Beehive"



THIS is the title appearing in an "Oakland Tribune" for August 30th showing James McCrary, of Oakland, removing a colony of bees from the roof of the Berkeley home of Dr. Kenneth James Saunders, prominent writer and lecturer. We show the picture here.

The comb in this roof colony was twelve feet long, two feet wide and more than six inches thick just under the attic roof. It yielded more than a hundred pounds of honey. Mr. McCrary says: "This story and picture were released over the National Press wires and were printed in many leading papers. At the time the picture was taken, I could only see the honey comb from the peak of the roof to the eaves. Later in the day when I got down to the eaves, I found that the three longest ribbons of comb not only hung down in the wall two feet,

but extended horizontally two feet in between the ceiling joists, making sixteen feet of unbroken comb.

"Of course there were several shorter combs lying along the side filling in the space between the 2x6 rafters and down the wall and between the ceiling joists. It was some of this latter that broke down and the honey started seeping through the ceiling of the guest chamber that called for their removal.

"You will see from the picture that the eaves of the house are of peculiar construction, allowing the bees to build a comb of this formation. I am ready to claim this as the world's record for the length of a singleribbon of honeycomb. Now, who can tell a bigger one? Although this colony had been there eight years, no member of the family had ever been stung."



Who's it?

REMEMBER our guessing contest? We can't resist this one. Who is the gentleman with the armful of bees? If you can't tell us, we'll tell you next month.

—ABJ—

Top Entrances Again

By Wendell T. Card,
Pennsylvania.

I WAS interested in the reference to Father Langstroth (page 429, September) regarding upper entrances. While this is evidently a question which will never be settled, perhaps I may be allowed to add a few personal observations.

I am satisfied Father Langstroth was correct, at least in the case of unpacked bees, when he said that the large summer entrance is best if there is no upward ventilation. I leave mine so—protecting against mice by half inch mesh wire screening. This entrance will sometimes become clogged with ice and dead bees—but rarely. My theory of the large entrance is that more thorough ventilation, with more rapid equalization of humidity inside and outside the hive, prevents excessive condensation of moisture about the bees. The same principle keeps your saw bright and free from rust in an unheated open shed but soaks the plaster until it falls off in a tightly closed unheated house.

Now as to upward ventilation; at one time I bored a small hole in the front of some of my hives, where the handhole comes, as a sort of emergency exit in case the lower entrance became clogged. Almost invariably

the bees sealed these shut.

However, I have frequently noticed that where a hive corner is broken off or in some manner a space large enough for bees to pass occurs just under the cover, the bees will leave this space open and use it as a flight hole rather than crawl down over the chill combs and perhaps dig through damp dead bees to the regular entrance.

In the extreme winter of 1933-34 I had an average colony in a two-story, ten-frame hive. In late fall I raised the telescope cover on one-quarter inch strips so there was that much open space between cover and hive on the two long sides. It was, of course, thoroughly storm proof. The lower entrance was reduced to $\frac{3}{4}$ by 3 inches.

Since this cover was not glued down I could easily lift it without disturbing the bees, and I frequently did. At no time during the winter was there any sign of condensed moisture in this hive and the cluster appeared to be in splendid condition. Other colonies with reduced entrances and no upward ventilation became thoroughly soaked.

Truth compels me to admit that the above colony did not survive the

winter—but neither did forty-one others in the same yard, including one very thoroughly packed as a check colony. I attribute the heavy loss to a very late and cold spring and too heavy requeening from an otherwise good queen whose wintering ability had not been carefully considered.

Bees in trees frequently have top
(Next page, please!)

Some Day?



Some day maybe we can sleep off our disease worries when those astute gentlemen the Government is turning loose on foulbrood give us a bee that will devour *Bacillus* larvae, like the good Italian does his spaghetti, and call for more. Speed the day!

Get the Point?



When I call on a dealer I have one of the small cases and a photograph to show him as an example of the help I can give him in selling honey. He usually is glad to get the display, and give it a prominent place in his store.

You can use your own original ideas and skill in making a case to use in displays. I prefer the stacking of small cases because of the ease in transportation. Then you have a service to give the dealer along with the honey he is to sell for you. The length of time to leave the display in any store depends on its volume and desire of the manager to continue it, however, it is not a good idea to leave it too long, because its effectiveness wears off when customers become used to seeing it.

—ABJ—

Manley's New Bee Book

"Honey Production in the British Isles" is the title of a new book of 343 pages by R. O. B. Manley. It is published by Bradley and Sons, London, but can be had from the office of the American Bee Journal for \$2 per copy.

The volume is very practical in its applications as Manley is a beekeeper who depends entirely upon honey production for a livelihood, one of the

entrances only, and winter with but average losses. The only definite conclusion I have reached is that hereafter no unpacked bees of mine in two story hives shall have reduced entrances; unless larger experience proves they should.

I live in northern Pennsylvania

—ABJ—

Selling Honey

By R. W. Hill,
Washington.

WHILE we usually have no trouble persuading our bees to make honey, we frequently do have a hard time urging merchants to carry our line, and many of us would rather sell wholesale than to bother with selling honey in small lots to consumers, even though the profit per pound may be a little greater. Merchants can usually be convinced that honey taken on consignment is a good investment of space, and the risk of such an arrangement is not very great. I found that one reason why dealers frequently sold only a little honey in a location where I thought the sales should be good was because they did not display it attractively.

I built up the display you see in the picture and presented it to prospective dealers. The boxes are separate and may be arranged together in any number or order to suit the window or store space. They have solid tops, sides and backs and bottoms, and have glass doors in the front. They are painted with glossy white enamel and are kept bright and shining and scrupulously clean. I had a sign painter make the signs to fit the boxes and the large letters for the overhead display.

The photograph of the child is a drawing card, and is also easily omitted if the dealer prefers. In fact, many like to put pancake prepara-

tions in the center space and on top of the side cases. The triangular formation is easy to set up, and conserves space. To complete my selling campaign I had photographs made of the display—like the one shown.

My yard is well sheltered from cold winds but not over sunny because of surrounding trees and walls.

tions in the center space and on top of the side cases. The triangular formation is easy to set up, and conserves space. To complete my selling campaign I had photographs made of the display—like the one shown.



Mr. Hill's display complete. He describes the details of it.

few commercial honey producers in Great Britain.

One assumes from reading this book that yields are somewhat smaller in England than here in America but that the beekeeper has the advantage of a better market and higher price for his product.

The author states for many years he has used an ever increasing number of Modified Dadant hives and that no other hive has been found equal to it for honey production. His average yield in the Dadant hive has been about fifty per cent higher than in the standard British hive.

The author appears to be well informed concerning American methods and American equipment and has applied the best of our practice to his own conditions. He seems to be unusually free from prejudice such as blinds so many authors to things which are good that come from other countries. He does not question the origin but asks whether a method is workable for the practical beekeeper.

American beekeepers may well read this book carefully and search out such new suggestions as may prove useful to them. His climatic conditions are very different from ours and many of the problems with which he works are unfamiliar to us but his methods are very practical and he has much to offer which is useful to any beekeeper.

—ABJ—

Indiana Bulletin on Brood Diseases

Extension Bulletin 212, Purdue University, is out and ready for Hoosier beekeepers. Written by B. Elwood Montgomery, it covers the usual descriptions of bee diseases, well illustrated, and gives the approved methods of control. Get your copy from Purdue University, Lafayette, Indiana.

—ABJ—

Honey and Lemon Juice Make Safe Cough Syrup

Winter coughs may be eased by a home mixture of honey and lemon juice in equal parts. This combination is often found more effective than more complicated medicine. A teaspoon of honey taken and held in the mouth, allowing it to trickle slowly into the throat and be swallowed will many times relieve that tickling sensation and annoying cough.

Honey in hot milk, one or two tablespoons to each glass of hot milk, taken before retiring will ease the throat and give a pleasantly drowsy feeling.

Benj. Nielsen,
Nebraska.



It's an important question isn't it? After last winter and its losses many new schemes will be tried: cellars where cellars were never used before; packing where packing has been thought unnecessary. Plan it carefully.

How Are You Going to Winter?

By Elmer Carroll,
Michigan.

WHEN one writes about production, packing, selling, and wintering, he is writing "up" to a large majority of beekeepers. Those fellows know most of the answers.

But the man just entering this sweet business, while he no doubt receives his incentive from the success of others, moves in with a cautious step. He studies all the journals and available text-books and crams his head with a conglomerate mass of information that tends only to bewilder him. It is only after he gets under way and often with much reversing of procedure and loss, that he finally selects the method of operation best suited to his location and taste.

Take, for instance, the matter of wintering. There are few of course, starting out on a small scale, who would venture to practice the rare system of annual killing. One should be quite sound financially to even think of it.

The matter of outdoor wintering is covered quite thoroughly by the journals. While many winter outdoors in two-story hives without protection, and we must admit, often without loss, the safest plan, year in and year out, proves to be, wintering with adequate protection and wind-break. This means four to six inches of packing material on sides and bottom, and twelve inches on top, leaving, of course, a tunnel for bee flight. Bees properly packed outdoors regulate to a large extent their own hive temperature.

There are a great many who would put their bees in cellars. Too much can not be said along this line. Often an inviting slope of ground is ideal for a cellar, but few build a bee cellar as it should be built, **entirely below the frost line**. Too many, new at the game, attempt to winter inside any style enclosure where bees can not fly out. It is too common to hear

a farmer say he had lost all his colonies after placing them in tar paper lined corn cribs, sawdust lined poultry houses, etc. Insulated buildings above ground, and sub-basements are bad, and often fatal. Bees in the "below the frost line" cellars are kept in the desired quiescent state by an even temperature. Look before you leap—into the winter.

—ABJ—

Queens from Good Stock

By E. S. Miller,
Indiana.

WHY don't our queen breeders rear their queens from good stock? For years I have been shopping around to find, if possible, some superior strain of Italians, but after purchasing queens from something like a dozen different breeders, in only one or two instances has the stock been deemed worthy of propagation. In the meantime, by careful selection, we have built up for our own use a strain superior to any we have been able to buy. What we have worked for is color, gentleness, non-swarmer and honey-gathering, all of which we believe to be essentials of good stock.

It seems that so-called Italians possess, in many instances, too much "colored blood." In other words they are just plain hybrids. At least they possess all of the characteristics and qualifications for such distinction. Often the queens are dark and the drones black and the workers mixed. They delight in swarming and when a honeyflow comes they promptly take to the woods. When the apiarist appears on the scene they greet him half way, they celebrate his presence by swarming about his head and they escort him home. When a comb is

lifted the bees slide off like water running off a board. And yet they are called "pure" Italians, "leather colored," "three-banded" and the like. It is not to be understood that all are of this type. There are others that apparently have been bred for color alone or for gentleness, or for some other one quality.

A beginner near here bought a lot of package bees with queens. Although encased in bee-tight armor with gloves and "everything," he occasionally has to beat a retreat or thinks he does, to keep from being "eaten up." One time I bought a lot of queens from Texas. They were yellow, all right, but I think they must have been crossed with Mexican yellow jackets "or something." They seemed to enjoy being smoked and could spy me coming a dozen rods away. Two years ago, being short of queens on account of adverse conditions, we bought sixty queens from a well-known southern breeder. Beautiful goldens they were, gentle as anyone could wish, but as for work, oh no. They must have had hookworm or perhaps these bees imagined they were "working" on PWA. Anyway, after introducing to full colonies, these colonies secured barely enough honey for winter, while those headed by home-bred queens stored about 175 pounds of surplus each notwithstanding a poor season. The next spring they were moved to an outyard and requeened.

It ought not to be difficult for a queen breeder to requeen his yards with some really good strain of Italians. Apparently many are careless, not caring so long as they can sell by advertising. Others, no doubt, are too well satisfied with what they have rather than to seek new and better stock or even to improve their own. It would seem that there is a field that might be occupied by someone interested in breeding for quality rather than for numbers and who could supply breeding queens to the large commercial breeders and others. The price to be obtained should be sufficient to make it profitable. Why not breed an American bee?

—ABJ—

Frances Celebrate Fifty-Sixth Anniversary

On September 15 Mr. and Mrs. N. E. France, of Platteville, Wisconsin, celebrated their fifty-sixth wedding anniversary.

We know our readers will join with us in congratulations to the Frances who have been prominent in beekeeping circles for so many years.

Mr. France is still an active beekeeper and a deputy bee inspector for his section as well as being the president of the southeastern division of the Wisconsin State Beekeepers' Association.

Many more happy years for the Frances.

Charles Foss, A Christian Example



During the latter part of 1935, C. E. Foss of Alpine, California, fell out of a bee tree while taking a swarm for a neighbor and died a few days later of injuries to the neck and spine. His brother, A. Percy Foss, writes about it. He says he now has the bees to take care of but apparently enjoys them and is planning to go ahead with them.

Charles Foss was working his bees intensively and enjoyed good crops for many years. Some of our readers may remember clippings in the news-

papers which appeared about him during the World War. At that time honey was selling for high prices. It brought from 18 to 22 cents per pounds in one period in carlots but Charles refused to sell on a profiteering basis and sold his honey to his neighbors at a reasonable price per pound, making sure before the sale that the honey would not be resold at a profit to the buyer. This attracted much attention as a sincere Christian act. At that time he was about 47 years old and had kept bees and lived near San Diego at Alpine for many years. Commenting on his act, he said:

"God gave us the bees. He gave us the flowers from which the bee draws its honey and they cost us nothing. When the world is overwhelmed with suffering, why should some men profiteer at the expense of those who suffer most?"

Widely commented on in the newspapers, it brought a flood of letters to Mr. Foss from admirers all over the United States. We have had the pleasure of reading them. They were forwarded to us by his brother.

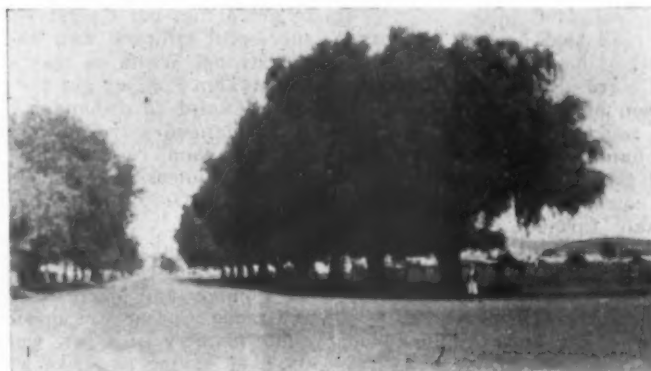
Alpine is 30 miles east of San Diego. —ABJ—

Hilo Honey Sherbet

Three-quarters cup Hawaiian pineapple juice, 4 tablespoons lemon juice, $\frac{1}{2}$ cup honey, 2 eggs, 1 $\frac{1}{4}$ cups milk. Mix fruit juices and honey, pour slowly over the well-beaten yolks, beating all the time. Then gradually, while beating, add the milk. Freeze to a soft mush in refrigerator tray or freezer. Fold in the stiffly beaten egg whites and finish freezing. Stir several times during freezing if sherbet is in refrigerator tray; 6 to 8 servings.

—ABJ—

Australian Pepper



HERE'S a snapshot of a terrace of *Schinus Molle* trees (pepper) growing in the township of Gunndah New South Wales, Australia. This particular tree grows very large and has flowers almost the whole year

around. The bees work hard on it collecting pollen and nectar. These trees were originally imported from America to Australia.

A. J. Cushman,
Australia.



Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.



MARCUS TERENTIUS VARRO,
116-28 B.C.

"The most learned of the Romans."—Quintilian.

THE Roman farmer, Varro, died almost 2,000 years ago. Yet one might not have to stretch the truth very far to call him the first of the modern beekeepers. His book was the first to mention large-scale beekeeping.

Varro told of a friend named Seius who had leased his hives at a yearly rental of 5,000 pounds of honey—a rental to command a large apiary today; and of two brothers who had only half an acre of ground between them but who made \$400 yearly from their bees and could be quite independent. Beekeeping in Varro's time was becoming a commercial enterprise and he devoted much space to it in his book on farming. He even advised that the apiarist save propolis to sell doctors for medical purposes.

Varro was both a practical man and a scholar, a rare sort of person, for most people are neither. It is said that he read so much it was hard to understand how he found time to write, yet he wrote so much that any one person could scarcely read all his books. He even wrote more than Pliny, who compiled an encyclopedia, and left behind him 600 volumes.

But for all that he was born and spent most of his life on a farm. His book, "De re Rustica," which he wrote when he had eighty years behind him, was the work of a man with caloused hands. It is the most practical and the best book on farming that has come down to us from the old Roman farmers. Varro wrote what he saw and did and so escaped the absurdities that filled the works of Pliny and others who merely copied what others wrote.

Varro was born on a Sabine farm. His family were wealthy, so he became a student. But he had to work. Work was one of the virtues that made the Romans a great people. There may have been slaves on the farm, but Varro labored with them.

In later years he went to Rome and mixed in politics, a bad policy for

either a farmer or a scholar, for the man on the wrong side of the political fence might chance to lose his head. Varro was a friend of the aristocrat, Pompey, consul of Rome, a friendship that led him into much grief, and but for a nimble pair of legs, to death itself.

Pompey was a sort of ancient Roosevelt who offended the rich by appealing to the poor, giving them money and restoring to them rights which they had lost because of ambitious men. Pompey, like all rulers, thought he should show his prowess by a little bloodshed, so he went into a war with the pirates, cleaning out their nests in the Mediterranean Sea. He took Varro with him in command of a boat. Varro leapt upon the deck of a pirate ship under the weapons of the pirates and took the vessel. For this gallantry he received the *Navalis Corona*, a rare award of military merit.

When they returned to Rome, Varro was sent as a governor to Spain. But for Pompey there was trouble. Julius Caesar had risen in the favor of the people while Pompey was away. For a time the two managed to get along, but Caesar was a most successful military man and became too strong. While he was absent on a campaign Pompey got the senate to order Caesar to disband his army or be proclaimed a traitor to the state. Pompey soon realized his mistake, for the soldiers were all on the side of Caesar. Only a handful stood by Pompey.

Then Caesar crossed the Rubicon into Italy and the fat was in the fire for Pompey and Varro. Pompey fled to Greece. Caesar was master of the whole country in a few weeks without ever having to strike a blow.

Pompey escaped into Egypt, where he was murdered, leaving Varro in Caesar's hands. But Caesar was now strong enough to be kind to his enemies. He gave Varro the job of collecting and arranging a public library at Rome.

Varro was nearly seventy years old. He had had enough both of politics and the army. He spent all the time he could at his farms at Cumae and at Tusculum. But in a few years, when Caesar was stabbed to death, Varro was ordered killed by the Roman rulers. Again he ran and escaped his pursuers, although they destroyed his library.

Later the old scholar found favor with the emperor Augustus, who gave him charge of another library at Rome, and allowed him to live out his eighty-eight years peacefully. At the ripe age of eighty he completed "De re Rustica," his work on farming, almost his only writing to be saved for modern readers.

Varro is not often read as a classic. Latin students do not have to trouble with him. He was awkward in his writing. His homely words bother scholars, but delight practical people who know the smell of the earth. People who want to dig results out of what they read find in old Varro a kindred spirit.

He told all the practical operations of the apiary. One should arrange for a succession of bloom for the bees from spring until fall, he said, and recommended planting such flowers as the rose, wild thyme, parsley, poppy and the bean to bring this about. He described the different kinds of hives, including those made from osier, wood, hollow trees or earthenware.

Varro furnished a classification of honey plants according to their uses, a classification that would seem a little peculiar to the modern naturalist. He said.

Pomegranates and asparagus supply pollen.

Figs supply inferior honey.

Olives supply wax.

But beans, apiastrum, gourds and cabbages supply wax and pollen.

His classification of bees was peculiar. There were three kinds of rulers, he said, the black, the red and the striped. The workers he thought

were small, round and striped, while the thieves and drones were black and broad-bellied.

But he had many practical ideas. He suggested a syrup in a piece of wool for fall feeding, and gave a recipe for a fig or raisin candy for winter feeding. Syrup in fall and spring, candy in winter—that is the modern practice. He described a simple method of hiving a swarm, which consisted of smearing the hive to make it attractive to the bees, then of placing the hive above the bees and smoking them until they went up into it.

Like modern beekeepers, he believed in removing dirty and unproductive combs. He knew that the presence of weak stocks in the apiary was often the cause of robbing, for he recommended placing these by themselves and giving them a new "ruler." And his hives were built so he could remove the covers.

Varro knew that honey did not come from the heavens. At least he made no mention of it, while he did describe flowers as the sources of honey. But he could not escape superstition altogether, for he warned against locating the apiary where there were echoes. Man waited for almost two millenia after Varro before science began to cure him of superstition. Or perhaps it is merely handing him new bogies to worry about.*

*Information on Varro's beekeeping is taken from "Beekeeping in Antiquity," by H. Malcolm Fraser. —ABJ—

Honey Getting, Part VI

(Continued from page 494)

brood if otherwise desirable. When colonies are brought to standard strength and kept queenright, they make it possible to produce the crop from that point on with little labor.

All laying queens are clipped or similar control and record obtained in some other way. It marks supersedeure and tells age, and prevents swarms leaving in absence of operator. A queen record of this sort makes it easier to obtain uniform colonies.

Swarms are controlled by relieving the brood nest, and also the maintenance of a clear brood nest helps keep the population at a high point for honey storage.

PART VI

Colonies Are Handled in Such a Way That the Bees Are Kept Good Tempered.

Good tempered bees are important. Since more work can be done with the same effort and with more comfort with good tempered bees than with cross ones, it is good practice to replace the queens of any vicious colonies, either with good stock from one's own apiary or with a better

tempered strain of bees from some outside source.

With the advance of intensive agriculture in beekeeping regions good tempered bees are necessary, and an operator, in many regions, cannot afford to have cross bees in his apiaries not only because they lessen his own efficiency in work, but because they are liable to cause trouble with his neighbors and also make it difficult for other beekeepers who do not have cross bees to find locations, because most people do not know of the great differences between strains of bees.

One of the most common causes of cross bees is brushing and shaking bees from extracting combs. While this can be done so carefully that few bees become cross, the commercial beekeeper operating large apiaries seldom uses the requisite time and care. He goes ahead with his work, encasing himself in "armor" that will insure him against stings, and lets the bees rage.

Nearly all brushing and rough handling of bees can be avoided if a clear brood nest system of management is used. With all the brood concentrated in a known position instead of scattered throughout the hive, as is common in the free queen method, bee escapes can be used successfully if desired; or, what is probably more efficient, carbolic acid may be used to drive the bees out of supers of honey. If shallow supers are used, bees may be quite readily driven, by smoke or otherwise, from supers of sealed honey containing no brood.

For his own comfort and profit, and if he has any close neighbors, or if there are any ranchers or farmers within a mile or two of his apiaries, a good operator prefers to use a clear brood nest and keep his bees gentle.

Eradication of American Foulbrood

Confining a queen to a definite and well-inspected brood chamber does much to minimize the spread and danger of American foulbrood. At the same time, through having a clear brood nest, the queen consistently has more room for laying than she would have if free and in danger of being crowded out of one brood nest and into another without such being the intent of the operator.

The clear brood nest method can be confidently recommended where American foulbrood is a menace. Beekeepers who use this method and who promptly burn the few diseased colonies they discover may expect to suffer but little loss from this disease even though it is prevalent in neighboring apiaries.

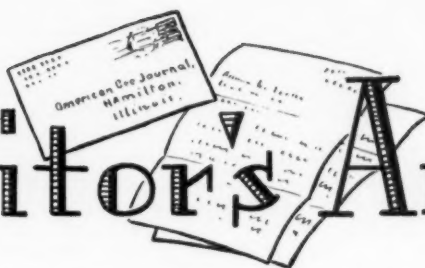
In the free queen method, where the brood nest is not inspected at intervals as a regular part of the system of management, and, if the colony appears normal, often not at all unless a law requires inspection for American foulbrood, this disease

often gains a serious hold before the beekeeper is aware of it. But in a clear brood nest system, where the brood chamber is in a known place and is inspected frequently, at least twice in the spring as a part of management routine, American foulbrood, if present, should be discovered when only a few cells have become affected.

With free queen systems a brood chamber containing some American foulbrood may be abandoned as it becomes filled with honey and the queen may establish a new brood nest in another part of the hive. The first brood chamber may then become entirely filled with honey without the operator having become aware that American foulbrood was present, and such filled combs of honey may be saved for winter stores, scattering infection and creating a mysterious outbreak of disease which the beekeeper usually charges to some other source than his own carelessness. With free queens, also, brood is more likely to be scattered throughout the hive, with no uniformity in different colonies, thus making its discovery more difficult and creating additional dangers when super combs are shifted from one colony to another, as they often are after the honey has been extracted. This danger appears again when super combs are being sterilized, if that is practiced, because cells having scales of American foulbrood may be filled with honey and be overlooked by the operator.

It is possible, also, that some cells containing American foulbrood scales may be sealed over part way down in the cells, particularly if they are in what originally were thin brood combs which later were put into supers having eight or nine frames; some cells may then be continued on top of the old cappings, new honey put in the outer half of the cells, and the cells again sealed over. When these combs are uncapped and the honey is extracted, it is thrown out of the outer half of these cells while the inner capping may remain with American foulbrood material under it, the beekeeper having no knowledge that, deep down in the comb, hidden away under those old cappings, are American foulbrood scales. When some exigency of colony life occurs, as in robbing or in a dearth of honey, disease material may be uncovered and a case of disease may develop without any apparent explanation, even many years after an apiary was supposed to be free from it. Any beekeeper who examines "empty" combs with sufficient care is likely to find these hidden cappings. He does not know what may be hidden there, deep in the cell. This is a good argument in favor of destroying all combs from colonies having American foulbrood instead of trying to sterilize and save some of them.

The Editors' Answers



Late Dividing

Q. Hives seem to be overflowing with bees and no honeyflow. Would you advise dividing in August or thereafter, taking the young queen in cage and frames of brood, filling up balance of hive with honey or shallow brood chamber on top and placing this where parent stood to receive incoming fielders?

ILLINOIS.

A. We doubt that it would be advisable to try to make increase this late as there will probably be no honeyflow this fall and the bees would have to be fed to bring them up to strength. Better give the bees plenty of syrup for winter and make your increase in the spring.

—ABJ—

Feed to Equal Honey

Q. How much dry sugar will it take to make feed to equal one hundred pounds of honey?

ILLINOIS.

A. Two pounds of sugar mixed with one pound of water will make a syrup about equal to honey. A good colony should have at least 60 pounds of winter food, but do not feed until about the first of October unless they are now short of stores.

If the bees have quit rearing brood, then it might be well to start feeding from the middle of September on, so they will rear some young bees for winter. The greater part of their food, however, should be given to them about October first.

—ABJ—

Sugar Honey

Q. Is there any such thing as sugar honey?

TENNESSEE.

A. It is possible to produce "honey" by feeding bees sugar syrup, but it is not pure and it would be against the law to sell it for honey. Bees, if fed sugar syrup in large quantities, will store it in their combs and will also build combs from it. It is not profitable, however, as the expense of the sugar and feeding makes it difficult to compete with honey gathered from flowers.

—ABJ—

Late Fall Requeening

Q. I would like to have advice on late fall requeening. I have sixty colonies with queens of various ages and I wish to requeen them in the broodless period. Please give me details of this method of introduction in the late season when no honey is coming in. What queens do you use? What is the acceptance? What do the colonies do the next year? When should I do the work in North Dakota?

NORTH DAKOTA.

A. We choose a time in the fall when the weather has become cool enough so the bees do not fly readily and there is little chance of their robbing. In this kind of weather, which comes late in the season, there is still some flight in the middle of the day. The bees then have little or no brood and the colonies probably cluster at night. They cluster to some extent in the daytime too. The weather should be cold enough to wear a sweater or a coat. The

bees do not readily fly and yet it is not too cold to feed the syrup.

Choosing this weather, we open the colonies to be requeened, having previously marked them or having judged them at the time by the small indifferent clusters of bees indicating a probable poor queen. One or two combs at the sides away from the partly formed cluster of bees are removed and set out so that the remaining combs may be separated and one from the middle of the cluster removed until the queen is found. It is usually easy to find the queen in the center of these bees. She is disposed of.

New queens in mailing cages received from purchase or selected from those which you have raised yourself are introduced in the usual manner, with the candy end of the cage up and the opposite end resting on the bottom bar of one of the combs, the very center of where the bees will cluster. Do not look at these colonies again until the following spring.

The acceptance is usually good. The objection to it is that small clusters of bees, requeened at this late date, receive no addition in bees from the new queen, and, since these small clusters are apt to be the ones lost in winter, they must be very carefully protected. Every other way the method has advantages over the usual ones.

—ABJ—

Cellars for Bees

Q. Can you give me some plans for a winter cellar on a side hill for keeping bees? How far below the ground to insure protection from frost? Would you advise storing Langstroth hives with shallow food chambers?

MANITOBA.

A. In your country, F. L. Floyd, Manitoba Apiarist, Parliament Bldg., Winnipeg, can give you details more definite for Manitoba than we can.

Usually to insure being below the frost line, the floor should be three feet under the ground and mounded up with dirt that much outside. Your plan of using a half depth feeder is all right. Some prefer to set supers away in the honeyhouse, however, and give them back to the bees in the spring after removal from the cellar. Bees need but little food in the cellar. The only disadvantage in the use of a cellar is in the necessity of watching the bees during the winter.

—ABJ—

Clipping Queens' Wings

Q. Does clipping the wings of the queens hurt them in any way to the detriment of the colony?

MANITOBA.

A. Clipping the queen's wings if you confine it to the glossy or membranous parts and do not clip the large edge which is hard and chitinous will not injure the queen and the bees do not resent it. However, if you clip straight across the wings, cutting through the hard parts also, it will frequently cause supersedure.

Carbolic Acid

Q. In using carbolic acid for taking honey, could I use a sprayer on a piece of gunny sack tacked on the tops or covers? Would it anger the bees and would it affect the honey in any way?

MANITOBA.

A. Gunny sacks used that way will be all right. Carbolic acid used so the bees are driven completely out of the hive does have a tendency to make them angry. Don't use it that long. It will not affect the honey if it is aired thoroughly in the honey house.

—ABJ—

Can You Sell Prince George Hotel?

A menu card for luncheon in the Prince George Hotel, New York, lists many farm foods. Commenting on the back of the menu about it, Alburn M. Gutterson, Manager, says: "To provide you with the best and the unusual when possible we offer farmers a chance to exchange their products for accommodations in the hotel. We secure in this way home made preserves, pickles, condiments and tid-bits not sold through the regular hotel supply dealers and provide an outing for some hardworking tillers of the soil.

"We have already exchanged rooms for maple syrup from Vermont, sweet corn on the cob from Ohio, and food stuffs from many sections where the best and unusual may be obtained. Clams from Massachusetts, coffee from Boston, apples from New Hampshire, lobsters from Maine, soft shell crabs from Maryland, Smithfield hams from Virginia, celery from Michigan."


So if you go to New York, you better get in touch with Mr. Gutterson, Manager, of Prince George Hotel, and see if you can exchange honey for rooms.

—ABJ—

Melting Down in 1936

Kelty of Michigan writes about colonies melting down in 1936. In 1934, I had this trouble, did not have it in 1935 nor this year. Yet 1936 was hot. For a while 105 to 108. My thirty-five colonies were in the sun, between brush grown up from stumps, no breeze. Just heat and more heat. I had no weak colonies. All weak colonies were eliminated by uniting. Top supers were set back to give two entry ways, top and bottom. Let the colonies alone as much as possible during hot weather.

A. J. Van Rossum,
Minnesota.



Meetings and Events

Honey Harvest Festival

Don't forget it. The Honey Harvest Festival. It takes the place of National Honey Week. Dates are October 25-31. Write to American Honey Institute at once for a copy of the Honey Harvest Festival plans. We have before us here suggestions for the carrying out of the Honey Harvest Festival which includes exhibits, parade, children's day, contests, stunts, etc. Also for the securing of a lodge or community hall as the center of activities with exhibits including the practices of honey production, different kinds of honey, preparing the honey for market, exhibits of honey in foods and uses for honey with demonstrations if possible.

Put on a parade with the help of local companies, using trucks, interest schools, have floats with "The King in the Counting House, Counting Out His Money, the Queen in the Parlor, Eating Bread and Honey," Biblical references to honey, "Eat thou honey because it is good, sweet to the taste and health to the bones," historical references, the honey queen. A Children's Day with government film, prize drawings, debating contests, etc.

A Homemaker's Day with honey demonstration or cooking school. Interest the retail stores in window displays. There are any number of things you can do.

Send to the Institute for the complete Festival series outlining exhibits and just how to go about them with festival broadcasts suitable for the season. These are priced at from 5 to 10 cents. I think if you send for them and ask for a bill, the Institute will accommodate you with as many as you wish for distribution. Write to American Honey Institute, Madison, Wisconsin.

We hope this new idea is practiced. We have had Honey Week so long it has become commonplace. Here's a brand new subject, a Honey Harvest Festival.

It comes at just the time of the honey harvest, too. Let's see what we can do with it. If we can get started this year, we will know how we can go about for another year.

If you think you put across some unusual honey harvest festival idea, send it addressed to the Journal and we will be sure to publish it for the

help of others who want to try the scheme another season.

Remember, Honey Harvest Festival, October 25-31. Do your part. Get your material from American Honey Institute, Madison, Wisconsin, at once. You've only got a month; hardly that after you get this issue of the Journal. — o —

Get Ready for the Conference at San Antonio, November 23-25

Watch the November number, in this department, for a more complete account of the great winter meeting, with program and events, side trips, and details. These winter meetings of the Southern Conference, the American Honey Producers' League, and the American Honey Institute, have so far been excellent drawing cards to bring out beekeepers from far and wide. Let's not let down on the interest this time. The Texas Centennial alone should be a good side show for the Conference and the Mexican trip and the hunting party ought to add their bit to the already large attraction of the annual roundup.

This month the main question is, "How are you going to San Antonio?" Miss Arlene Weidenkof, Secretary, American Honey Producers' League, Box 2020, University Station, Madison, Wisconsin, would like to know. She writes:

"Do you want extra passengers to share driving cost? Write to me, telling when you leave, how long you expect to stay, if you are going into Mexico, number in your party, other details." If this possibility of reducing expense and giving the other fellow a lift, interests you, write now to Miss Weidenkopf.

Railroads offer special reduced fares, especially attractive because of the Centennial for which they already have reduced fare schedules. We have three roundfare tables at hand now. From the Louisville and Nashville Railroad, the schedule carries fares from all points by coach and sleeper. From Chicago to San Antonio and return, 30 day limit, by coach, \$36.50; Boston, \$60.85; New York, \$52.75. Frisco Lines, from St. Louis, by coach, \$27.80. Wabash, from Chicago, by coach, \$36.45.

The Wabash Valley Round-Up

Was it a great meeting! About the largest meeting beekeepers have ever attended. Nearly 500 registered, and apparently there were over 650 present. I think that's a fair estimate. They came from Indiana, Illinois, Michigan. Of course the largest number from the host state, Indiana.

L. R. Stewart, as host, is a master organizer. He had a three-ring circus where it was impossible for everybody to see everything at one time and a nice new honey house where demonstrations of extracting and packing bulk comb honey were going on constantly while in the bee yard were demonstrations of requeening and the removal of honey with acid, in the Institute room and at the Institute stand demonstrations of honey cooking; commercial exhibits of glass and tin; competing exhibits of honey and cooked foods; a fish fry (plenty to eat), a whole wagon load of watermelons, and only four short talks under the big canopy tent; not a tiresome minute and the time passed so quickly.

This is the kind of a bee meeting that brings back the people. Don't forget it, you secretaries. Get modern. Tie up the talky-talky and demonstrate. That's what carries the points. Remember the old Chinese proverb, "One picture is worth 10,000 words."

Anyway, if you weren't at the Wabash Valley Meeting, Newport, September 12th, you missed a big event in the Mid-West this year. We hope that Mr. Starkey and his cohorts and Profs. Davis and Montgomery will make it an annual event somewhere in Indiana. Stewart put on this show right out of his own pocket. He says the bees paid for it. A small collection was taken up among a few to help him defray expenses but after all the big show was Stewart's.

Mrs. Stewart as hostess certainly backed up the program with her genial smile, her wonderful food and a complete hospitality that makes everyone want to come back again. Thank you, Mrs. Stewart for a good time.

It is hard to give any details of the demonstrations. There were too many of them. They were going on all the time. It was impossible to take in more than one at once and so many people to see and shake hands with and exchange news with, that the day was altogether too short.

Prize Winners in Honey Nut Bread Contest Wabash Valley Round-Up

First and Second Prizes—Mrs. Florence Miller, St. Bernice, Indiana. She is County 4-H Club Leader and has been practicing on honey nut breads all summer in preparation for entering this contest.

Third Prize—Mrs. Arthur G. Gill, Evansville, Illinois.

Fourth Prize—Mrs. Margaret Raybould, Brazil, Indiana.

Fifth Prize—Mrs. Ross Morrill, Elburn, Illinois.

RECIPES

1st Prize—Honey Pineapple Bread—Institute's Recipe

- 1 egg
 - 1 cup honey
 - 2 tablespoons fat
 - 2 1/4 cups all purpose flour
 - 3 teaspoons baking powder
 - 1/2 teaspoon salt
 - 1 cup pineapple juice
 - 1 cup All Bran
 - 3/4 cup nut meats
1. Blend honey and shortening.
 2. Add egg and beat well.
 3. Sift together flour, salt, baking powder, reserving 1/2 cup flour for nuts.
 4. Add half of the sifted ingredients to egg and honey mixture, incorporate well.
 5. Add All Bran and pineapple juice; mix well, add remaining flour and nuts.
 6. Pour in well-greased loaf pan, the bottom of which is lined with wax paper.
 7. Bake in moderate oven (350° F.) 1 1/4 hrs. Yield: 1 loaf.

2nd Prize—Prune Nut Bread—Institute's Recipe

- 1/2 cup honey
 - 2 tablespoons fat
 - 1 egg
 - 1/2 cup mashed prunes
 - 1 cup cornmeal
 - 3/4 cup whole wheat flour
 - 1 1/4 cup all-purpose flour
 - 1/2 teaspoon soda
 - 3 teaspoons double action baking powder or 4 teaspoons of other types.
 - 1 1/4 cups milk
 - 1 cup nuts
 - 1 1/2 teaspoons salt
1. Cream honey, fat and when well blended add egg and beat well.
 2. Add mashed prunes.
 3. Combine dry ingredients.
 4. Add to first mixture with milk.
 5. Add nut meats, stirring just long enough to mix ingredients.
 6. Bake 1 to 1 1/4 hours (depending on

depth of loaf) in slow oven (350° F.). Yield: 1 loaf.

3rd Prize—Orange Pecan Bread

- 1 egg
 - 1/2 cup honey
 - 2 tablespoons fat
 - 2 cups bread flour (white)
 - 1/2 cup stone ground rye flour
 - 1/2 teaspoon salt
 - 1/2 cup bran
 - 1 teaspoon soda
 - 1 teaspoon baking powder
 - 1 cup sour milk
 - 1/2 cup nuts (ground fine)
 - 1 cup nuts chopped
 - 1 cup Honey Orange Marmalade*
- Method.—Assemble dry ingredients. Reserve one cup for mixing with chopped nuts. Cream honey and fat, add egg, beat well. Add part of dry ingredients then liquid and remaining dry ingredients. Stir until all ingredients are blended, add marmalade and stir until it is mixed. Pour in well greased loaf pan, the bottom of which has been covered with wax paper. Bake at 325° F. for one hour and five minutes (varies with shape of pan). Decorate top with pecan halves simulating bees.

*Orange Marmalade

Rind of one half of lemon and one orange from which juice has been extracted. Boil skins in five different waters, just bringing to a boil. Remove from water, grind, add equal measures of honey and simmer until thick.

4th Prize—Honey Nut Bread

- 1 cup honey
- 1 egg
- 2 1/2 cups flour
- 1/2 teaspoon salt
- 1/2 teaspoon soda
- 1/2 teaspoon baking powder
- 1/4 cup sour cream
- 2/3 cup nut meats
- 2/3 cup raisins
- 1 tablespoon orange peel (chopped)

Blend honey and egg, add about one-third of the sifted dry ingredients. Add sour cream and remaining dry ingredients which have been mixed with nut meats, raisins** and orange peel.

Bake in moderately slow oven (320° to 325° F.) for an hour to an hour and fifteen minutes depending upon depth of loaf.

**Raisins are scalded first and mixed with chopped peel and then added to dry ingredients and nut meats.

5th Prize—Honey Nut Bread

- 1 cup honey
 - 1 egg
 - 2 tablespoons shortening
 - 1 cup sour milk
 - 1 cup raisins
 - 1 cup nut meats
 - 1 1/2 cups whole wheat flour
 - 1 1/2 cups white flour
 - 1 teaspoon soda
 - 1 teaspoon salt
- Blend honey and fat, add egg and beat well. Sift dry ingredients and mix with raisins and nut meats. Add about a third of dry ingredients to honey, fat and egg mixture. Add sour milk and remaining dry ingredients, stirring just enough to mix.

Pour in greased pan, bottom of which has been lined with waxed paper.

Bake 1 to 1 1/4 hours depending on depth of loaf.

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Missouri State Fair 1936 Apiary Awards—Bees

F. B. Paddock, Ames, Iowa, Judge of the Honey Show pronounced both the quality and size the best in years. An adverse season for bees no doubt reduced entries. Close competition made the use of a score card necessary in some classes.

Mr. Paddock sees an even greater value in bees as pollenizers for plants. Orchard men estimate that each colony in an orchard will return from 50 to 100 dollars in increased fruit production.

Geo. D. Jones, Columbia, Mo., Superintendent, was well-pleased with the show which has grown to be one of the major exhibits in the Agriculture Building. 4-H Club Classes were added this year.

HONEY

Judge: F. B. Paddock, Ames, Iowa.

Display of Apiary Products, Bees and 25-lbs. Honey.

- 1—Carl Kalthoff, Higginsville, Mo.
- 2—Wm. Brengarth, Boonville, Mo.
- 3—Ollie Kerby, Sedalia, Mo.
- 4—Carl Neef, Boonville, Mo.

Display of Light Extracted Honey.

- 1—Carl Kalthoff, Higginsville, Mo.
- 2—Wm. Brengarth, Boonville, Mo.
- 3—W. A. Scott, LeMonte, Mo.
- 4—Carl Neef, Boonville, Mo.

Display of Comb Honey.

- 1—Carl Neef, Boonville, Mo.
- 2—Carl Kalthoff, Higginsville, Mo.
- 3—Ollie Kerby, Sedalia, Mo.

Best Dozen 2-lb. Jars White Comb Honey.

- 1—Carl Kalthoff.
- 2—Ollie Kerby.
- 3—Carl Neef.
- 4—W. A. Scott, LaMonte, Mo.

Best Dozen 2-lb. Jars, Amber Cut Comb Honey.

- 1—Ollie Kerby, Sedalia, Mo.

Best 2 Dozen 1-lb. Jars White Extracted.

- 1—Ollie Kerby.
- 2—Carl Kalthoff.
- 3—W. A. Scott.
- 4—Wm. Brengarth.

Best 2 Dozen 1-lb. Jars Amber Extracted Honey.

- 1—Ollie Kerby.
- 2—Carl Kalthoff.
- 3—Carl Neef.
- 4—W. A. Scott.

St. Louis County Meeting



St. Louis County Association—Left to right: John McAnnar, Sec.; H. C. Irish, Pres.; G. L. Hankammer, Vice Pres.; A. Fitzgerald, Trustee; Frank Kruempelmann, Treas.

WE attended the St. Louis County meeting at the apiary of Mr. Groom of St. Louis. A very good attendance. Loud speakers helped. It makes it very easy to talk and demonstrate.

Mr. Groom gave a demonstration of transferring foulbrood colonies with a transfer cage and box with carbolic acid so that the bees are kept off the combs until all honey is consumed and then released on foundation.

We hope to have a detailed account with pictures of this device for a future issue. Mr. Groom is sending us one of his original outfits for the purpose and we will build one, take pictures of it, then you can see just how it is and how it works. It is a very good idea, indeed.

We give you pictures here of the officers of the Association.

Best Langstroth Size Frame—Sealed—White or Light Amber.

- 1—Carl Kalthoff.
- 2—Carl Neef.
- 3—Ollie Kerby.

Best Shallow or Half Depth Frame—Sealed Honey.

- 1—Carl Kalthoff.
- 2—Carl Neef.
- 3—Ollie Kerby.

Pyramid of 6 Most Perfect Sections.

- 1—Carl Kalthoff.
- 2—Ollie Kerby.
- 3—Carl Neef.

Best Dozen 2-lb. Jars White Candied Honey 1935 or 1936

- 1—Ollie Kerby.
- 2—Wm. Brengarth, Boonville, Mo.

Best Dozen 2-lb. Jars, Amber Candied, 1935 or 1936.

- 1—Carl Kalthoff.
- 2—Carl Neef.
- 3—Wm. Brengarth.
- 4—W. A. Scott.

Bees & Beeswax, Best 5-lb. Cake White Beeswax.

- 1—Ollie Kerby.
- 2—F. B. Butterwick, Sedalia.
- 3—Carl Neef.
- 4—Carl Kalthoff.

Best 5-lb. Cake of Yellow Beeswax.

- 1—W. A. Scott.
- 2—Ollie Kerby.
- 3—Carl Neef.
- 4—T. S. Butterwick.

Best Worker Comb (Langstroth Size).

- 1—W. A. Scott.
- 2—Carl Kalthoff.
- 3—Carl Neef.

Banded Italian Queen and Her Bees, 1 Frame.

- 1—W. A. Scott.
- 2—Wm. Brengarth.
- 3—Carl Neef.
- 4—Carl Kalthoff.

Caucasian Queen and Her Bees.

No entries.

HONEY COOKERY

Judge: Mrs. Claire L. Montgomery.

General Display of Uses of Honey in Preparing Food.

- 1—Mrs. Roy Hulse, Oak Grove.
- 2—Mrs. Geo. Landes, R. 3, Sedalia.
- 3—Ollie D. Coulter, Excello.
- 4—Mrs. W. A. Scott, LaMonte.

Honey Fruit Cake

- 1—Mrs. Geo. Landes.
- 2—Mrs. Grace B. Nelson, Kansas City, Mo.
- 3—Mabel Dunlap, Osceola.
- 4—Mrs. Roy Hulse, Oak Grove.

Light Honey Cake.

- 1—Mrs. Roy Hulse.
- 2—Mrs. Geo. Landes.
- 3—Mabel Dunlap, Osceola.
- 4—Mrs. Earl Payne, Sedalia.

Dark Honey Cake.

- 1—Mrs. Geo. Landes.
- 2—Mabel Dunlap.
- 3—Mrs. Wm. Brengarth.
- 4—Lucile Cramer, Lamine, Mo.

Assortment of Honey Cookies.

- 1—Mrs. Roy Hulse.
- 2—Mrs. Wm. Brengarth.
- 3—Mrs. Geo. Landes.
- 4—Ollie D. Coulter.

1-lb. Loaf of Whole Wheat Bread.

- 1—Mrs. Roy Hulse.
- 2—Mrs. Geo. Landes.
- 3—Mrs. C. H. Kahrs, R. 5, Sedalia.

Pie Baked With Honey.

- 1—Mrs. Roy Hulse.
- 2—Mrs. Geo. Landes.
- 3—Mrs. Wm. Brengarth.
- 4—Mrs. C. J. Labahn, Sedalia.

One-Half Gallon Honey Vinegar (Glass).

- 1—Mrs. Geo. Landes.
- 2—Mrs. J. L. Scotten, R. 3, Sedalia.
- 3—Mrs. Roy Hulse.
- 4—Mrs. W. A. Scott, LaMonte, Mo.

4-H Bee Clubs—Educational Exhibit.

- 1—4-H Bee Club, Waverly, Mo.

4-H Honey—Best Quart Extracted.

- 1—Eugene Helman, R. R., Sedalia.
- 2—John Casebeer, R. 1, Waverly.
- 3—Oran T. Casebeer, R. 1, Waverly.

4-H—Best 3 Sections Comb Honey.

- 1—Joe Walz, Waverly.
- 2—Billy Walz, Waverly.
- 3—Robert Longan, R. 3, Sedalia.

4-H—Best Quart Cut Comb Honey.

- 1—Eugene Helman, Sedalia.
- 2—Joe Walz, Waverly.
- 3—Donald Slusher, Waverly.

4-H—Best 3-lbs. Beeswax.

- 1—Calvin Slusher, Waverly.
- 2—Donald Slusher, Waverly.
- 3—John Casebeer, Waverly.

SPECIALS

Most Entries.

- 1—Carl Kalthoff—15 Entries.

Most Entries—Women.

- 1—Mrs. Geo. Landes.

Most Premiums Taken

- 1—Carl Kalthoff and Carl Neef. (Tied with 13.)

Number Premiums Taken—Women.

- 1—Mrs. Geo. Landes.

Total Pounds Entered.

- 1—Carl Neef.

Most Money Won.

- 1—Carl Kalthoff.

— o —

**Bronx County (N. Y.) Round-Up
October 11**

The October "Round-Up" of the Bronx County Beekeepers' Association will be held at the apiary of Frank Masek, 2219 De Reimer Ave., Bronx, N. Y., at 2:30 p.m. October 11, 1936.

Let's make this a get-together meeting after the summer vacation, relate your summer experiences and give report of the 1936 honey crop in your locality.

We are planning to make the fall and winter meetings very interesting and invite suggestions from the members of our own association as well as of those of other associations. Let's swap ideas.

We INVITE traveling beekeepers and those from neighboring states and counties to our meetings.

John S. Ferguson, Secretary,
150 W. 78th St., New York, N. Y.

— o —

Horst Winner at Washington State

H. J. Horst of Centralia was the principal winner in the apiary contests held in connection with the Washington state fair in Yakima in September. Mr. Horst won the sweepstakes, nine firsts and two second prizes. H. B. Terrill of Kennewick took first on comb honey and second on honey vinegar. Ovrille Terrill of Kennewick took second on comb honey, and Charles Becker of Outlook carried off third honors in the comb honey competition. W. C. Wixon of Wapato was judge for the honey show.

I. L. Neill,
Washington.

— o —

St. Charles (Missouri) Meeting

The summer meeting of the St. Charles County, Missouri, Beekeepers' Association was held in St. Charles on August 24. It was an all day meeting and a fish fry at noon. A big fish fry at that, with plenty of

fish to go around and some left over, although there were probably seventy-five people there including the beekeepers and their families.

After the big dinner, a round table discussion was carried on in which all beekeepers participated. The Association recognizes the desirability of securing a foulbrood law for Missouri and appointed a committee to co-operate with the St. Louis County Beekeepers' Association in furthering a state wide movement towards a new bee law.

— o —

Fort Duchesne Meeting

The Utah Association held an enthusiastic meeting at Fort Duchesne in August in connection with the Uintah Basin Industrial convention. The Uintah Basin is an important honey producing section. Several Indian beekeepers were present. Ray Miller, president, discussed state organization, pointing out the advantages of co-operative marketing.

J. F. Wakefield, past president, and field inspector, reported the bees of Utah in good condition with a high quality honey crop to be harvested. Dr. Hendricks, state apiarist, talked on the honey industry from the standpoint of the State Board of Agriculture, pointing out the opportunities in the honey market at the present time.

There were also speakers of the Utah State College and a round table discussion. There will be another meeting in January, probably during the annual Ogden Livestock Show, the second week in the month, according to Mr. Miller.

Glen Perrins,
Utah.

— o —

**Rock Island (Illinois) Association
Meeting**

The annual meeting of the Rock Island County Beekeepers' Association was held at the farm home of John Johnson at Hampton, Illinois, on September 3. The President Rev. C. K. Dean presided. Talks were given by M. G. Dadant; former chief inspector A. L. Kildow; Deputy Inspector Dow Ripley.

A number of beekeepers were present from Scott County, Iowa, and from Henry County, Illinois. Mr. Pierce Mohr of Bettendorf gave an address as representative of the Scott County Bee Association. His address consisted of reminiscences of by-gone days in beekeeping as well as some observations on wintering, swarm control, bee disease, etc., which were very valuable.

There were probably forty beekeepers present and the usual large number of ladies which we have come to look for at meetings during the past year or two. A big chicken dinner with all the accompaniments was served at noon.

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The Rock Island Association as well as our hosts the Johnsons deserve a lot of credit for the great success of the meeting.

Officers for the ensuing year were re-elected from 1935 year—Rev. C. K. Dean being selected President, S. F. Peterson of Moline as Secretary and H. A. Wickersham of E. Moline as Treasurer.

— o —

Beekeepers' Meeting at Savanna

The beekeepers of Illinois District No. 1, consisting of Jo Daviess, Stephenson, Carroll, and Whiteside counties met at the Chas. Handel home in Savanna, Ill., May 28, 1936. After enjoying a social hour and the generous hospitality of Mr. and Mrs. Handel a picnic dinner was served.

The meeting was then called to order by chairman Duerrstein and the following program carried out: A brief talk by Mr. Duerrstein followed by the reading and approval of the minutes of the previous meeting.

The subject of "Why Bees Swarm" took the form of a lively discussion by Mr. Claussen, Mr. Duax, and Mr. Dadant.

Mr. M. G. Dadant spoke on the use of carbolic acid in taking off honey. He also spoke of Cyanogas for killing bees. Mr. Gober added some points.

During an intermission refreshments were freely served. The benefits therefrom to go to the association.

Mr. Duax gave a talk on winter losses and inspectors' experiences.

Mrs. Duax spoke of suitable honey servers.

Upon motion the meeting was adjourned.

C. W. Duerrstein.

— o —

Uvalde Honey Festival

We are indebted to a subscriber for copy of the Uvalde Leader-News describing the Uvalde County Texas Honey Festival with an estimated crowd of 12,000 people, with a parade, concert and speakers.

The parade was graced with floats by the different business houses, hotels, stores, schools, Chamber of Commerce, CCC camp, newspapers, American Legion.

The Kincaid Hotel featured an exhibit of honey from almost every producer in the county and nearly every place of business in Uvalde had an attractive display of honey or hives and equipment. Other features were beauty contests and golf tournaments. Miss Wilma Russell was crowned queen bee of the Honey Festival at Memorial Park with a coronation ceremony on an immense stage with a beautiful background with glimmering lights and a pageant with various scenes covering "Texas Through the Ages." Different honey bearing flowers of the county were

personified by young ladies appropriately dressed for the occasion. According to the description, it must have been a gorgeous affair.

Other honey producing regions could profit from this because we certainly do love to see personifications of industries. Perhaps the new Honey Festival of American Honey Institute can be put on in some such fashion in different localities.

— o —

Texas Beekeepers Convene at College Station

Fifty beekeepers, mostly commercial, met July 20 and the fifty-ninth annual meeting of the Texas Beekeepers' Association began. This is the thirty-fifth annual meeting held at College Station and the twelfth consecutive meeting held in the same room. The place of holding the annual meeting was made College Station in 1901 with the organizations of the Farmers' Congress, which later developed into the Short Course of A. & M. College. It is recorded that at the first meeting there were thirty-five beekeepers present and that the Farmers' Congress consisted of fifteen hundred. The attendance on the Short Course this year was seventy-five hundred, a very significant indication of the growth of interest in farming activities during this period of time.

A most interesting set of papers was presented. Roy Weaver, Navasota, gave a history of the growth of the popularity of the Caucasian bee. He told of his experience with this variety and cited articles in beekeeping journals to show that others agreed with him. It was his opinion that there are many places where Caucasians are superior and that they have many uses for which they are better than other races of bees. This paper was discussed by many of the long time beekeepers. A summary of these discussions would indicate that the commercial beekeepers of Texas favor the dark colored three-banded Italian. These discussions brought out the history of the trials made with Caucasians in Texas during past time.

Edward Burleson, Waxahachie, who is perhaps the best honey salesman in the state, gave a review of what he has found to be true in the commercial world relative to the demands made by the buyers of honey. He discussed the preparations of honey before putting it into packages, the caring for the packages during the process of filling, the care of packages, the kind of labels, and care of the packages between the packing plant and the place of ultimate sale. His paper was judged the best presented during the annual meeting.

T. P. Robinson, Bartlett, who has

been a beekeeper for nearly fifty years, told of the conditions which exist in the cotton section of Texas and predicted that, unless something is done to regulate the use of poison sprays and dusts, beekeeping in the cotton section is at an end. His paper brought out a long discussion of this most pertinent subject.

Dr. Don O. Baird, Sam Houston State Teachers College, Huntsville, described the apiary exhibit at the Centennial Exposition at Dallas. Dr. Baird planned and put up this exhibit at the request of J. A. Moore, Agricultural Secretary of the Dallas State Fair, who so many years has shown the beekeepers many favors at the Dallas Fair.

H. E. Graham, Cameron, discussed the problem of feed during truck transportation of package bees. In the discussion which followed the paper, a large amount of information in regard to how to feed, the amounts to feed, and when to feed, packages was of great interest not only to the package men but to the beekeepers in general.

A fire-proof extracting plant was described by E. T. Edwards, Grandview, along with a number of labor saving devices with which his honey house is equipped. These devices had been very largely adapted from factories which handle material similar to honey.

The representatives of the Experiment Station, Inspection Force, and the A. & M. College gave interesting reports of the work in beekeeping investigation and of beekeeping instruction. Numerous short papers made the program one of the best in recent years.

During the business meeting a committee appointed at the beginning of the session to devise ways and means to assist the committee made up of the representatives of the national organizations reported that they had planned for a number of committees from the Texas Association to work as subsidiary committees to the committee appointed by the national organizations. These committees were named. They also named a finance committee who should solicit funds necessary in the preliminary arrangements for the national meeting. The officers elected for the ensuing year are: Roy Weaver, Navasota, president; J. Claude Wilson, vice-president; and the secretary-treasurer was retained.—H. B. Parks, Route 1, Box 368, San Antonio, Texas, secretary-treasurer, Texas Beekeepers Association.

Kansas Beekeepers Meet

Seventy-five people interested in beekeeping in Kansas registered in at the annual summer meeting at

Topeka, July 26. Considering that the thermometer was in the vicinity of 110 degrees, it may be considered a genuine success. At this meeting, 62 persons paid the annual fee of 50 cents; and, to date the Association has 78 paid memberships, whereas a year ago there were only 42. These figures indicate the renewed interest that is being worked up since an appeal to Kansas beekeepers was published in this Journal last January.

A new Constitution was adopted, and under it, the following officers were elected for the ensuing year: president, O. A. Keene; secretary-treasurer, H. W. Stewart. Three vice-presidents were chosen, George Pratt, J. F. Rule, and J. M. Parks.

One innovation was added by the adoption of the new Constitution, which provides for a winter meeting of Kansas beekeepers to be held at Manhattan in conjunction with the Farm and Home Week. The Association enlivened its session by giving away in a free drawing sixteen prizes, running all the way from good beehives to hive tools.

In spite of the rapid growth in membership and interest in the Association, there is the ominous threat of factional strife over the question of apiary inspection; one side holding to the present law of state administration, the other for its repeal and a county system substituted. It's serious, and may undo the good that has been in promise for the beekeeper of Kansas. It seems fair to say in this regard, that the troublous question is, in reality, more a matter of disease-education among the smaller beekeepers than it is a matter of inspection. A campaign of education on a county basis can do more to solve the problem than any law, state-wide or local, can possibly do. So, beekeepers, let's learn our own business, and the division in our ranks may thus be easily done away. Here's hoping for more intelligence among us in disease diagnosis, and less "scrapping" over inspection.

— o —

Tazewell (Illinois) Meet

The Tazewell County Beekeepers (Illinois) had the July open air meeting at Coppers Creek Ferry. Attendance—27 adults, 17 children. There was not a bee in sight but a good soaking put a smile on all the folks. The present officers are Harvey Foote, Greenvally, president; Olive Price, Towns Acres, vice-president; Walter Scott Lohnes, secretary-treasurer, Pekin.

—Walter Scott Lohnes.

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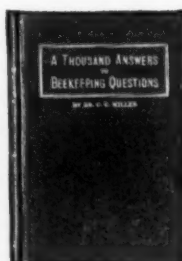
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Another 1935 Calif. Colony Record

By Jes. S. Hepner,
California.

On page 393, August issue, is the record of a California scale hive. Here is a report for Covina, 30 miles east of Los Angeles. Stockwell's hive is in a warm district and way above the California average. Here is a different story:

April 11—	Gain 2 lbs.	
12—	Gain 2 lbs.	
13—	Gain 4 lbs.	
14—	Gain 4 lbs.	
15—	Gain 2 lbs.) Cold, lots of bloom.
16—	Loss 2 lbs.	
17—	Gain 5 lbs.	
18—	Gain 7 lbs.	
19—	Gain 8 lbs.	
20—	Gain 7 lbs.	
21—	Loss 1 lb.	Fog.
22—	Gain 1 lb.	Fog.
23—	Loss 2 1/2 lbs.	Fog.
24—	Gain 10 lbs.	
25—	Gain 12 lbs.	
26—	Gain 5 lbs.	Cloudy.
27—	Gain 2 lbs.	Cloudy, Foggy.
28—	Gain 0 lbs.	Rain.
29—	Loss 2 lbs.	Rain.
30—	Loss 0 lbs.	Rain.
May 1—	Gain 3 1/2 lbs.	Cloudy.
2—	Gain 5 1/2 lbs.	Rain.
3—	Gain 7 lbs.	Windy.
4—	Gain 8 lbs.	Hot.

The flow ended suddenly May 4th, total net gain 89 pounds, 24 working days. This was a good average colony out of 1000. Some beekeepers put their best colony on the scales. California averaged about 60 pounds during the year reported—1935.

—ABJ—

Utah Crop the Finest

The harvesting of the finest quality honey in the history of northern Utah and southern and eastern Idaho was being completed the latter part of September by scores of optimistic beekeepers, a survey of apiaries reveals. The crop was one of the largest on record as well, except in Millard and Iron County and in the Uintah basin where dry weather cut the yields to from 20 to 60 per cent of normal. Other spots were better than 125 per cent of average, due to the abundance of blooms and excellent growing weather that brought out blossoms in fine style. July was the wettest on record in some sections in northern Utah.

Bees will be put away for the winter in fine, healthy state and apiarists anticipate an even better year in 1937 with another big crop of honey.

Glen Perrins,
Utah.

—ABJ—

Our Cover Picture

Taken by John C. Allen, of Indiana, the most versatile of our agricultural photographers. Miss Helen Rhyan, of West Lafayette, among the apples will remind us that the busy bees, months ago, were the silent bearers of the fertility that made this luscious fruit.

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Fig. 104

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Crop and Market Report



COMPILED BY M.G. DADANT



For our October Crop and Market page, we asked reporters to answer the following questions:

1. How is final crop compared to 1935?
2. Plant conditions?
3. How is honey selling?
4. What is a fair price for good white extracted in ton lots? In carlots?

Final Crop Compared to 1935

There has been an improvement in conditions in honey production since our last report came out and as a result a number of states have changed from a condition of less honey than last year to one of more.

This has been particularly true in the northeastern states and in the north states along the border line of Canada as well as in the southeastern coastal region.

As a result, New England reports a little better crop on the whole than last year. New York has come up to about 80 per cent. Maryland the same.

In the Carolinas, Virginia and Georgia, the crop is probably 105 to 110 per cent of last year and in Florida all reporters agree that it is 50 per cent bigger than last year.

The extreme southern states will have just about the equal crop of last year and this includes Texas but not Arizona and New Mexico which are figuring on about 60 per cent of last year's harvest.

As we come north, conditions grow no better. This is particularly true of Kentucky, Tennessee, southern Indiana, all of Illinois, Missouri, and southern Iowa. The conditions also exist into Ohio. Reports would indicate that Ohio will have about as much honey as last year and Indiana perhaps not quite as much with Illinois running only about 40 per cent of last year and Iowa 75. Missouri will have probably 50 per cent of last year's crop.

Michigan has had a wonderful crop in the southern regions coming late and fall flow almost all over the country with heavier flows in the fireweed sections also so that the crop compared to last year will be at least 150 per cent or maybe 200 per cent. The northern sections of Wisconsin report similar heavy crops but southern Wisconsin and southern Minnesota are not so well off.

The late rains although they came extremely late have been of very much help in the northern sweet clover regions and the sweet clover crop this year has been prolonged where last year it was cut off early.

Kansas and Nebraska are about in the same shape and Illinois and Iowa reporting about 50 to 60 per cent of last year's crop. Oklahoma has a flat failure owing to the extreme drought and this extends into northern and eastern Texas.

Similar conditions are reported in northern and eastern Colorado and southeastern Wyoming. Eastern Montana also has similar conditions. Western Montana, northern Wyoming and the regions comprised by the states of Idaho, Utah and Nevada and the west slope of Colorado are reporting very much better than a year ago, ranging from 110 to 130 per cent of last year's crop. Idaho earlier looked for a very heavy crop which has been somewhat curtailed by later developments but still is excellent.

Washington and Oregon are above a year ago with California only reporting about 50 per cent. In reality, California likely has swung the pendulum against a heavier crop than a year ago and had a great effect on building up the prices of honey this year.

The above statements relative to honey crop naturally are gathered from the commercial producers. It would indicate that the crop of the commercial producers the country over is perhaps equal to a year ago. However, there are less bees in the country to gather the crop and not a doubt but that the smaller beekeepers are many of them out of the picture.

Plant Conditions

With such a dry summer as we have had, there is not much chance that the plant conditions this fall can be near normal. However, such seems to be the case in the New England states, northern New York and extending across the country through Wisconsin, Michigan and Minnesota.

Plant conditions are above normal in the east Atlantic coast states and extending into Florida and up to normal in the entire South.

The usual white clover area comprising the Central West, however, has far below normal conditions. There is no white clover at all and sweet clover conditions are problematical. Many old producers state that sweet clover will be sufficiently abundant next year while others on examination claim that the plants are not there. A wet late fall may have the result of producing many more plants but likely beekeepers will have to do a little searching next year to get their bees in reach of sufficient sweet clover to secure a crop. This applies to the Central West. The northern areas likely which had their rains earlier will be O. K.

Honey Selling

Honey is selling better than it did at this time last year without a doubt. This applies chiefly to local sales but it is also reflected in the purchase of carlots. In California particularly beekeepers are becoming "choicy" in selling and holding for prices which range from 1 to 2 cents above last year. Even in the Central West and farther east, the prices are ranging much better than a year ago. Many crops have been sold at a price of 6½ to 7 cents f.o.b. shipping point in central western areas and 8 cents in smaller quantities less than a ton.

Honey Prices

As stated previously in this page, honey prices are up from last year. In the eastern sections, prices on ton lots run from 7¼ to 8½ cents per pound and on larger quantities from 7 to 7½ cents. Similar conditions extend down to the Atlantic coast region although in that section practically all honey is consumed at home.

Florida prices on amber run about 6 cents in large lots. Throughout the central western areas 7 cents is a fair price f.o.b. beekeeper's shipping point, varying according to distance to point of delivery and also on whether cans are to be returned.

We see no reason for any radical change in our recommendations on honey prices as per attached page and have, therefore, left them the same as for September issue.

In the Canadian provinces although eastern Manitoba has had much less crop than a year ago, production has been very heavy in western Manitoba and into Saskatchewan, many averages running over 200 pounds per colony. Ontario has hardly an average crop and the crop tapers off as we go west out of Saskatchewan into Alberta with a heavier crop in British Columbia.

The honeyflow has continued on into the fall owing to late rains and in many cases it has had the result of increasing the crop materially.

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NEW ENGLAND	90%	70%	Good						\$1.60	\$.90				\$.30	\$4-5.00	25%		35%
NEW YORK	75%	40%	Fair			.08	.07	\$3.50	1.50	.90			.25	.25	4-5.00	25%		35%
NEW JERSEY, DELAWARE, MARYLAND	110%	50%	Good						1.50	.85			.25	.25	8.75	20%		30%
WEST VIRGINIA, VIRGINIA	110%	80%	Fine		.07				1.40	.75	\$1.50	\$.80	.25	.25	4.00	20%		30%
NORTH CAROLINA, SOUTH CAROLINA	130%	100%	Fine						1.30	.70	1.40	.75						
GEORGIA	120%	100%	Good		.06	.07	.05%		1.25	.65	1.45	.75	.25			20%		25%
FLORIDA	130%	100%	Good		.06	.06%	.07	.06-.06½	1.20	.65			.25			20%		30%
ALABAMA, MISSISSIPPI	100%	100%	Good			.07	.06-.07		1.25	.65			.20			20%		25%
KENTUCKY, TENNESSEE	40%	20%	Fair						1.45	.65	1.50	.80	.20	.25	4.80	20%		25%
ARKANSAS, LOUISIANA	70%	60%	Slow		.06		.05		1.20	.60	1.50	.80	.20			20%		30%
TEXAS	100%	100%	Fair			.06-.06½	.05		1.20	.65	1.20	.65	.25			20%		30%
NEW MEXICO, ARIZONA	75%	60%	Fair		.05½	.06-.06½			1.00	.50								
PENNSYLVANIA, OHIO	Pa. 60% O. 90%	40%	Fair			.07-.07½			1.35	.75			.20	.25	4.50	20%		30%
MICHIGAN	N. 50% S. 80%	50%	Good	Yes	.06½	.07-.07½	.06-.07		1.25	.65			.20	.20	3.75	20%		30%
WISCONSIN	70%	50%	Good	Yes	.06	.07	.06-.07		1.20	.60			.20	.20	3.75	20%		30%
MINNESOTA	85%	60%	Good	Yes	.06-.06½	.06½-.07	.06		1.15	.65			.20	.15	3.40	20%		30%
INDIANA	80%	30%	Fair	Yes	.06½	.07	.06		1.25	.70			.25	.25	3.75	20%		30%
ILLINOIS, IOWA, MISSOURI	75%	30%	Fair	Yes	.06	.07	.06½		1.25	.65			.20	.20	3.25	20%		30%
NORTH DAKOTA, SOUTH DAKOTA	60%	40%	Good	Yes	.06-.06½	.07		3.25	1.25	.65			.20	.20	3.50	20%		30%
NEBRASKA	60%	25%	Good		.06	.07			1.25	.65			.25	.20	3.50	20%		30%
KANSAS, OKLAHOMA	50%	30%	Slow			.07			1.30	.70			.25	.20	3.50	20%		32%
MONTANA, WYOMING, COLORADO	80%	80%	Fair		.06½	.06½-.06½	.06		1.15	.60			.15	.15	3.25	20%		30%
IDAHO	150%	100%	Slow	Yes	.06	.06-.06½	.06	3.25	1.00	.50			.20	.17	3.25	20%		27%
UTAH, NEVADA	120%	100%	Good	Yes	.06	.06-.06½	.05½	3.00	1.00	.55			.20	.18	3.10	20%		26%
WASHINGTON, OREGON	120%	100%	Good		.07	.07		3.25	1.10	.60			.20	.20	3.25	15%		25%
CALIFORNIA	50%	50%	Fine	Yes	.06-.06½	.06-.07	.06	3.00	1.00	.55			.20	.20	3.25	15%		25%
BRITISH COLUMBIA	80%	50%	Good	Yes		.10			1.50	.85			.25					
ONTARIO	80%	80%	Good			.08			1.00	.55								
SASKATCHEWAN, MANITOBA, ALBERTA	90%	100%	Good			.09			1.00	.55								

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

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JOYFUL QUEENS—Leather colored Italians. Good honey gatherers and gentle. 50c each. Joy Apiaries, Walter Friedrich, Belleville, Ill.

ITALIAN Queens. Northern bred, for Northern conditions. Eugene Gordon, Hershey, Nebraska.

"SHE-SUITS-ME" QUEENS. See page 155 of March number. Send for circular. Allen Latham, Norwichtown, Conn.

STOP—LOOK—Genuine Three-Banded Italian Queens 50c each. Satisfaction guaranteed. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, North Carolina.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We ship only young, laying queens, and guarantee them to be purely mated, and satisfactory to you. You are the judge. Price 50c each, to dealers 4½c each. We need dealers in many localities. The Walter T. Kelley Co., Paducah, Ky.

ANNOUNCEMENT—Have gone in business for myself after many years' experience with others. My aim is not how much I can get for what I give, but how much I can give for what I get. For the remainder of the season, pure Italian golden queens 50c; tested \$1.00. Packages in season. Head Apiaries, S. J. Head, Prop., Bay, La.

GOLDEN ITALIAN QUEENS that produce workers very gentle to handle. Good honey gatherers. Health certificate. Satisfaction guaranteed. Select tested, \$1.50; tested, \$1.00; untested, 50c. D. T. Gaster, Rt. 2, Randleman, N. C.

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ITALIAN and Caucasian queens fifty cents each. Guaranteed to please. Weaver Apiaries, Navasota, Texas.

CAUCASIAN PACKAGE BEES. Booking orders now for 1937 delivery. P. B. Skinner Bee Co., Greenville, Ala.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's. David Running, Fillion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. **THE COLORADO HONEY PRODUCERS' ASSN.**, 1324 Market St., Denver, Colorado.

HONEY PACKERS—Write us for prices and samples on California and Western honeys. We stock all varieties. **HAMILTON & COMPANY**, 108 West Sixth Street, Los Angeles, California.

FOR SALE—Extracted honey in new 60's. H. Blitz, P.O. Box 3438, Philadelphia, Pennsylvania.

TUPELO HONEY—Will not granulate. Barrels, new 60's, seven and eight cents. Anthony Bros. Honey Co., Apalachicola, Fla.

NEW CROP WHITE CLOVER HONEY. Henry Stewart, Prophetstown, Ill.

FOR SALE—New Comb and Extracted Honey. H. G. Quirin, Bellevue, Ohio.

NEW CLOVER HONEY for sale. Write for prices. Henry Price, Elizabeth, Illinois.

FOR SALE—Finest quality and whitest comb honey in years. Also white extracted. N. B. Querin & Son, Bellevue, Ohio.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich Street, New York.

WHITE CLOVER HONEY in 60-lb. cans at 8c lb. Write for prices on large quantities. Sample 15c. F. W. Summerfield, Grand Rapids, Ohio.

NEW CROP white extracted, case or ton lots. Sample ten cents. Harry C. Kirk, Armstrong, Iowa.

NEVADA alfalfa sweet clover honey, car lots, white 6c, E.L.A. 5½c f.o.b. Fallon, in new cans and cases. C. E. Andrews, Box 334, Fallon, Nevada.

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SEVERAL TONS fine extracted clover honey. No reasonable offer refused. Andrew Mahay, Johnston, N. Y.

WHITE CLOVER comb and extracted honey. Earl Baker, Genoa, Illinois.

CHOICE WHITE CLOVER HONEY in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

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FOR SALE—Fancy extracted white clover honey in new 60-lb. cans and 10-lb. pails. Write your needs. Sample 10c. E. J. Baxter, Nauvoo, Ill.

EXTRACTED in new 60's, white clover 8c, buckwheat 7c. No. 1 white clover comb \$3.50, buckwheat \$3.00 per case. F. J. Smith, Castalia, Ohio.

CLOVER, comb and extracted, in new 60-lb. cans. Send for sample and price. A. A. French & Son, Theresa, N. Y.

FINE QUALITY CLOVER in 5-lb. pails \$6.00 per dozen. One 60-lb. tin \$5.00. F. L. Barber, Lowville, N. Y.

FANCY ILLINOIS CLOVER HONEY. New 60's. Elmer Luebeck, Elwood, Illinois.

EXTRA LIGHT AMBER clover extracted honey 7c. White clover 8c. Sample 15c. A. J. Wilson, Hammond, N. Y.

CLOVER BASSWOOD HONEY blended by the bees. Well ripened, heavy and fine taste. 7c lb. 60 lb. cans only. Discount for 10 or more cans. Sample 15 cents. M. Noack, 3958 Polk St., Chicago, Ill.

17,000 POUNDS wonderful quality white clover extracted honey. Clear, heavy body, fine flavor, suitable for bottling. In new cans and cases 8c. Prefer to sell without cases. Buyer to send truck to apiary. Write for truck load price. Valley View Apiaries, Savanna, Ill.

WHITE AND WATER WHITE clover and fireweed honey for sale in new 60's. Fred Pruim, Birnamwood, Wis.

HONEY AND BEESWAX WANTED

WANTED—Extracted Honey. Send sample and price delivered to T. W. Bursleson & Son, Waxahachie, Texas.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Light Amber Honey. Carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

WANTED—White and light amber extracted honey. Also comb. Prairie View Apiaries, 2005 Fullerton, Detroit, Mich.

WANTED—Comb and extracted honey. Schultz Honey Co., Ripon, Wisconsin.

CASH PAID FOR COMB AND EXTRACTED HONEY. Mail samples and best price. C. W. Aepler Company, Oconomowoc, Wis.

CASH—For extracted white and light amber honey. Mail samples, state price. Walter Geiger, 325 West Vine Street, Milwaukee, Wisconsin.

WAX worked into comb foundation, accepted in trade for supplies or bought. Write for our proposition and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

WANTED—All dark grades of honey. C. Jankowski, Russell, Ill.

FOR SALE

140 COLONIES BEES, two-story 10-frame painted hives, fully equipped. Theodore Sires, Yakima, Washington.

COMB HONEY CARTONS 4x5 and 4½x1½ two color, close out price \$2 per thousand F.O.B. Watertown. Shipping weight 7 pounds per 100. Order from G. B. Lewis Company, Watertown, Wisconsin.

HIGH WINDS COMING—BEE prepared. Equip your hives with Whitehouse Bee-Tight Hive Cover Holder. Speed up bee work—eliminate rocks. Outer cover cannot blow off, and it fits down tightly against inner cover which operates as easily with attachment as without—only ½ minute to install this device—nothing more to do. Whitehouse Bee-Tight Hive Cover Holder puzzles meddlers and fits metal top covers only. Try one and be convinced that you need this attachment on all of your hives. Sent prepaid upon receipt of price of 15c each—one dozen for \$1.50. Patent applied for and manufactured by R. S. Whitehouse, 275 LaGrange St., West Roxbury, Mass., U. S. A.

YOUR WAX WORKED into medium brood foundation for 15 cents per pound, 100 pounds \$14.00. Fred Peterson, Alden, Iowa.

PACKAGE AND QUEEN OUTFIT in south Georgia. Will sell part or all. Guaranteed free from disease. Write Box 81, Brookfield, Ga.

BIG REDUCTION on 10-fr. complete comb honey supers; slotted bottom bar frames; one-stem steam knives; Watertown and All Wood covers; 10-fr. bottom boards; Modified Dadant hives, supers, frames, etc.—Write Smith's Bee Supply, Box 603, Billings, Montana.

WANTED

WILL TRADE Jumbo supers for honey. Reuben Moin, Rice Lake, Wisconsin.

WANTED TO BUY OR LEASE—Place in good honey producing locality. Near good waters. Box G.O., c/o American Bee Journal.

FOR SEASON 1937 position as beekeeper, or manager for creditable outfit, any size, anywhere. 20 years' experience as owner and operator of bees. Guarantee satisfaction. Address—Beekeeper, Room 10, Antlers Hotel, Ft. Collins, Colorado.

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PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

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is made in either of the two most practical sizes, to take either 30 or 50 frames.

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NEW WESTMINSTER
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50c each for balance of season. A 15% discount to those buying queens for resale. Would like to hear from those buying queens for resale. Rear three-band Italians only. No disease.

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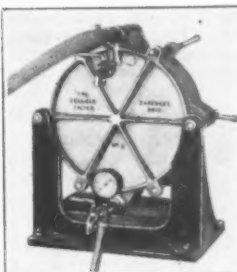
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But some progressive and alert honey producers are going to get some truly fine queens. Will you be among them? Then you had better write us now, so you won't be among the disappointed.

The price, 50c each. Air Mail delivery on all orders more than 24 hours distant by regular mail.

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Courtland, California

The Postscript

GOSSIP ABOUT THE OFFICE
IN THE MAKING OF THE MAGAZINE



As a member of the staff of American Bee Journal I am just coming of age. It is 21 years this month since I became associated with this magazine. Dr. C. C. Miller, Arthur C. Miller, Dr. A. F. Bonney, and others who were prominent a generation ago, were frequent contributors at that time. Twenty-one years is not a long time, yet there are few names which were among the leaders then that still remain on the active list now.

—ABJ—

Eugene Secor and N. E. France, once two of America's best known beemen were just then retiring from the lime-light and leaving the leadership in the field to younger men. Secor died soon after and France has lived so quietly that of late we seldom hear of him. To them we owe much of the success of the national organization in the earlier years when so much of accomplishment was placed in the record.

—ABJ—

C. P. Dadant, editor of this magazine, had but recently placed the active management of his factory in the hands of his sons. The magazine gave him an outlet for his energies and yet enough of freedom from the rush of business to provide keen enjoyment. At that time his grandchildren were very young. Now several of them are married and have families of their own. And what a pleasure the great grandchildren have been to Mrs. Dadant as one after another they have come into her life.

—ABJ—

Louis, Henry and Maurice were young men then, keenly alert and full of enthusiasm. Now they are middle aged and quite willing to share their responsibilities with the younger generation as they finish college and are ready to come into the business.

—ABJ—

The first of the younger set to take hold was Roy Grout, who married Marjorie, the elder daughter of Henry. Next came James Dadant, who is the only son of Louis. The latest addition to the force is "Bob" the eldest of the three sons who have come to the M. G. Dadant home. When I first came in, Bob was a little toddler and now look at him.

The boys seem to find their places in the outfit quite naturally. Roy is at work in production, and the candle manufacture and wax refinement are under his supervision. James looks after circulation of the American Bee Journal and now Bob comes in to take hold in the sales department.

—ABJ—

Thus in the short period of twenty-one years I have seen something of the work of three generations of Dadants. Charles Dadant, the founder of the business, had died before I became acquainted with the family; and C. P. Dadant, who established the business on a solid basis, was just then passing over his responsibilities to his three sons, Louis, Henry and Maurice. Charles founded the business, C. P. established it and the three men of the third generation have expanded it.

—ABJ—

I am happy to be able to introduce the three young men of the fourth generation on the 21st anniversary of my association with the firm. They have been happy years and very busy ones. It is seldom that a business remains in one family through four generations. It is rarer still to find so many members of a family devoting themselves to one enterprise.

All of the men for four generations and most of the women of the family have been closely connected with the business of Dadant & Sons. I have every confidence that the young men now taking hold will carry on with equal enthusiasm and efficiency.

Our thanks go to Dr. O. W. Park for the pictures.

—ABJ—

Great interest continues to be manifested in the cooperative experiment in disease resistance in honeybees which is carried on here at the Pellett Gardens. We have had more than 400 visitors in a period of four months. Although the greater number came from Iowa, they have come all the way from New York to Washington and California with thirteen states in all represented.

FRANK C. PELLETT.



Roy Grout—"Roy"



Robert Dadant—"Bob"



James Dadant—"Jim"